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A CLASSIFICATION OF HUMAN RACES BASED ON GEOGRAPHIC DISTRIBUTION OF THE BLOOD GROUPS

REUBEN OTTENBERG, M.D.
NEW YORK

In 1919, L. and H. Hirshfeld[1] showed that agglutinogen A (characteristic of Group II, red blood cells) predominates greatly over B in the population of northern Europe, and that agglutinogen B (characteristic of Group III, red blood cells) predominates in Asia and Africa. The two are about equal in certain intermediate races. They classified the races examined on the basis of the "racial index"—the ratio of the percentage of A to the percentage of B in the population. Those races having an index of more than 2 were assigned to the European type, those with an index of less than 1 to the Asia-African type, and those with an index between 1 and 2 to the intermediate type.

This classification (which disregarded entirely Group I) was sufficient so long as only those races had been examined whose proportion of Group I was at about the same level.

Since the work of the Hirshfelds, however, a large amount of additional information has accumulated. In many of the races newly described, the percentages are so different from those of the races in their table that a classification based on the racial index alone seems inadequate.

When all the material at hand is inspected and regrouped in such a way as to place together those races which closely resemble one another in percentages of the different blood groups, it is seen that the races so far described fall easily into six strikingly different types. The peculiarities of each type are more readily understood from the graphs of their average percentage composition, which appear under the accompanying map, than from the statistical table. It is seen that no two types are alike, and that the individual races in each type not only have closely similar percentages but also have geographic relationships of a remarkable kind. This is best brought out in the map.

It is evident, of course, that this classification, like the original one of the Hirshfelds, has something artificial about it, and can only be regarded as a temporary working plan based on our present very scanty knowledge.

The European type and the intermediate type of Hirshfeld are retained, though with certain omissions as well as additions. It does appear as though the intermediate type, with its diminished A (Group II) and increased B (Group III) may represent an admixture of Europeans with certain Asiatic races. It is interesting to note that, in Russia, A decreases and B increases as we go from north to south, and that, within the European type, B increases as we go from northwest to southeast. We should be careful, however, about drawing conclusions from slight percentage differences.

The Indomanchurian type has the suggestion of a natural group. The various races of India need more detailed study. The European Gipsies, who happen to fall in this type, represent, according to tradition, the remnants of Asiatic nomads. The Manchus and the adjacent Peking Chinese are in close agreement, while the Koreans show a transition in their proportions toward the Japanese and south Chinese, who belong to a sharply contrasting type, the Hunan.

This type, composed of south Chinese (Province of Hunan), Japanese, Hungarians and the adjacent Roumanian Jews, has a very high percentage of A with less of O (Group I) than any other races. For lack of a better name I have ventured to call it the Hunan type. The striking approximation of the figures of the Hungarians (and of the adjacent Roumanian Jews) to those of the Japanese and the southern Chinese is possibly a coincidence. At least, no satisfactory explanation can be offered for it at present.

The Hunan type is different from all other races examined. Its peculiarities demand explanation, and indeed offer the chief obstacle to the acceptance of the Hirshfeld hypothesis that red cell substance A (of Group II) arose in the north of Europe. Its high percentage of A is like the European type, while its low percentage of O comes nearest to that of the neighboring Manchurians. It is noteworthy that in Japan the percentage of A decreases and the percentage of B increases on going from south to north, so that the figures of north Japan tend to approach those of adjacent Manchuria.[2]

As identical mutations have been known to occur independently in more than one of a race of experimental animals or plants under carefully observed breeding conditions,[3] it is conceivable that European A and Hunan A arose as independent mutations. This is a theory that could be accepted, however, only after all other possibilities had been exhausted.

The African-south Asiatic type possibly represents an accidental rather than an essential agreement of

1. Hirshfeld, L., and Hirshfeld, H.: Lancet **2**: 675 (Oct. 18) 1919.

2. Fukamachi, H.: J. Immunol. **8**: 291 (July) 1923.

3. Morgan: The Physical Basis of Heredity, Philadelphia, J. B. Lippincott Company, 1919, p. 248.

figures. The Senegal negroes are the only representatives of the African continent so far examined. There are negroid peoples in the Andaman Islands and in certain islands north of New Guinea. The examination of these will be of great interest.

The Pacific American type includes those races which have a larger percentage of Group I (absence of A and B) than any other races. The relative proportions (racial index) of what slight A and B they have is such as to suggest that their A and B may have arisen from one of the historically known invasions by another race. Thus the A/B index of North American Indians—certainly no longer a pure race—is closest to that of their English and French invaders. That of the Australian aborigines (on whom the data are very scanty and confessedly almost entirely of hybrids) corresponds with their known mixture with English blood. And the A/B index of the Filipinos comes nearest to that of their closest neighbors in Annam, Java and Sumatra.

If we accept the Hirshfeld hypothesis with regard to the origin of A and B, we might call these races a "primitive type," since they come nearest to lacking entirely A and B. It will be remembered that the Hirshfelds made the assumption that A and B had different points of origin; that there are two different biochemical races which arose in different places, and that the mutual infiltration of the races is the cause of the varying proportions of A and B.

If this assumption is correct, the absence of A and B (Group I) must represent the antecedent and more primitive conditions. This conception was presented by Coca and Diebert,[4] who said:

> The possibility must be considered that the (American) Indians became separated from the rest of the human family before the appearance of the iso-agglutination elements, and the existence of those elements in some of the individuals examined is due to an admixture of white blood.

It is interesting to note in this connection that the Afro-south Asiatic type, which includes almost all the primitive races not in the Pacific-American, shows, like it, a sharp contrast between the high figures for Group I and the relatively low figures for the other groups.

Attractive, however, as is this hypothesis of the absence of A and B from primitive man, it cannot yet be regarded as proved. It seems best therefore to stick to the purely geographic nomenclature—"Pacific-American," rather than to speak of a primitive type. We will await, however, the investigation of the few remaining aboriginal races with great interest.

There are three races which cannot be exactly fitted in anywhere, but are assigned to the type to which they most nearly conform. The Icelanders, with their high O and moderately high A, suggest a primitive race like the American Indians, but with a greater north European admixture. The Koreans are evidently

Percentage of the Four Blood Groups in Various Lands

Group (according to Jansky)	I	II	III	IV	Racial Index	No. of Persons	
Red cell characteristics	0	A	B	AB	A/B	Tested	Observers
1. European Type:							
Swedish	36.9	46.9	9.7	6.4	3.3	533	Hesser: Acta Medica Scand. Suppl. 9, 1924
Swedish	33.5	51	10	5.5	3.5	500	Lindberger: Svenska Läk.Sällsk. Handl., 1924
Norwegians	35.6	49.8	10.3	4.6	3.6	436	Jervell: Norsk Mag. f. Lægevidensk., 1921
English	46.4	43.4	7.2	3.0	4.5	500	Hirshfeld, L., and Hirshfeld, H.: Lancet **2**: 675 (Oct. 18) 1919
French	43.2	42.6	11.2	3.0	3.2	500	Hirshfeld, L., and Hirshfeld, H.: Ibid.
Italian	47.2	38.0	11.0	3.8	2.8	500	Hirshfeld, L., and Hirshfeld, H.: Ibid.
Danish	47.3	36.7	12.0	4.0	2.5	150	Johansen: Hospitalstidende, 1921, p. 449
Germans (in Heidelberg)	35.3	47.6	12.2	4.6	3.1	500	Von Dungern and Hirshfeld: Ztschr. f. Immunitsforsch. **6**: 284, 1910
Germans (in Heidelberg)	40	42	14	3.4	2.7	1,000	Suker: Ztschr. f. Hyg. u. Infectionskrankh. **102**: 482, 1924
Germans (in Hungary)	40.8	43.5	13.6	3.1	2.9	476	Versar and Weszeczky: Biochem. Ztschr. **126**: 33, 1921-1922
Germans (in Kel)	39.8	42.8	14	3.4	2.7	500	Steffan: Arch. f. Rassen u. Gesellschaftshug, **15**: 137, 1924
Germans (in Leipzig)	34.5	41.5	16.5	7.5	2.0	1,000	Steffan: Ibid.
Germans Jews (Berlin)	42.1	41.1	11.9	4.7	2.7	230	Schiff and Ziegler: Klin. Wchnschr. **3**: 1078 (June 10) 1924
Austrians	42.0	40.0	10.0	8.0	2.6	.....	Landsteiner, quoted from Hirshfeld
Bulgarians	38.0	41.8	15.6	4.6	2.6	500	Hirshfeld, L., and Hirshfeld, H.: Lancet **2**: 675 (Oct. 18) 1919
Servians	38.2	41.6	16.2	4.0	2.5	500	Hirshfeld, L., and Hirshfeld, H.: Ibid.
Greeks	39.0	40.6	14.2	6.2	2.5	500	Hirshfeld, L., and Hirshfeld, H.: Ibid.
II. Intermediate Type:							
Arabians	43.6	32.4	19.0	5.0	1.5	500	Hirshfeld, L., and Hirshfeld, H.: Ibid.
Turks	36.8	38.0	18.6	6.6	1.8	500	Hirshfeld, L., and Hirshfeld, H.: Ibid.
Russians	40.7	31.2	21.8	6.3	1.3	1,000	Hirshfeld, L., and Hirshfeld, H.: Ibid.
Jews* (Spanish)	38.8	33.0	23.2	5.0	1.3	500	Hirshfeld, L., and Hirshfeld, H.: Ibid.
III. Hunan Type:							
Japanese	26.8	40.9	18.4	13.9	1.69	363	Fukamachi, H.: J. Immunol. **8**: 291 (July) 1923
South Chinese (Province of Hunan)	31.8	38.8	19.4	9.8	1.66	1,206	Li Chi Pan: Nat. M. J. China **10**: 268 (Aug.) 1924
Hungarians	31	38	18.8	12.2	1.6	1,500	Versar and Weszeczky: Biochem. Ztschr. **126**: 33, 1921-1922
Roumanian Jews	26.1	38.8	19.8	15.3	1.6	211	Manuila, quoted from Schiff and Ziegler: Klin. Wchnschr. **3**: 1078 (June 10) 1924
IV. Indomanchurian Type:							
Koreans†	28.0	32.0	26.5	12.7	1.16	363	Fukamachi, H.: J. Immunol. **8**: 291 (July) 1923
Manchus	26.6	20.6	38.2	8.5	0.75	199	Fukamachi, H.: Ibid.
North Chinese (Pekin)	30	26	34	10	0.82	1,000	Lui and Wang: Nat. M. J. China **4**: 118, 1920
Gypsies (in Hungary)	32.4	21.1	38.9	5.8	0.6	385	Versar and Weszeczky: Biochem. Ztschr. **126**: 33, 1921-1922
Hindus (Indians)	31.3	19.0	41.2	8.5	0.56	1,000	Hirshfeld, L., and Hirshfeld, H.: Lancet **2**: 675 (Oct. 18) 1919
V. African South Asiatic Type:							
Negroes (Senegal)	43.2	22.6	29	5.0	0.8	500	Hirshfeld, L., and Hirshfeld, H.: Ibid.
Americanized Negroes†	49.0	26.9	18.5	5.5	1.4	270	Lewis and Henderson: J. A. M. A. **79**: 1422, 1922
Madagascans	43.5	26.2	23.7	4.5	1.09	400	Hirshfeld, L., and Hirshfeld, H.: Lancet **2**: 675 (Oct. 18) 1919
Sumatrans	43.7	23	29	4.3	0.82	546	Bais and Verhoef: Nederl. Tijdschr. voor Geneeskunde **2**, 1921
Sumatra Chinese	40.2	25	27.6	7.2	0.92	502	Bais and Verhoef: Ibid.
Javans	39.9	25.7	29	5.4	0.9	1,346	Bais and Verhoef: Ibid.
Annamese	42.0	22.4	28.4	7.2	0.8	500	Hirshfeld, L., and Hirshfeld, H.: Lancet **2**: 675 (Oct. 18) 1919
VI. Pacific American Type:							
North American Indians	77.7	20.2	2.1	0	10.0	974	Coca and Diebert: J. Immunol. **8**: 487 (Nov.) 1923
Australian aborigines	57	38.5	3	1.5	8.8	204	Tebbutt and McConnell: M. J. Australia **1**: 201 (Feb. 25) 1922
Icelanders†	55.6	32.1	9.6	2.6	3.3	800	Johansen: Hospitalstidende **8**: 201, 1923
Filipinos	64.7	14.7	19.6	1.0	0.76	204	Cabrera and Wade: J. P. I. M. A., May-June, 1921

* Jews—"Refugees from Monastir—a people who came from Spain about 400 years ago."—Hirshfeld.

† These races do not exactly coincide with the type, but represent a transition to an adjacent type and have been omitted in calculating the average percentage.

4. Coca, A. F., and Diebert, O.: J. Immunol. **8**: 487 (Nov.) 1923.

a transition. The American negroes obviously show the proportions of the African negroes as modified by a certain admixture of white blood.

It is interesting to note that the Jews in each country in which they have so far been examined closely resemble the surrounding population.

My object here is not to draw conclusions concerning an anthropologic question on which I am wholly incompetent to pass. I wish merely to arrange the available blood group data in as natural a manner as possible, in the hope that their significance will then be elucidated and reconciled without present conceptions of racial relationships by those properly qualified to do so.

That the data have some, though possibly a limited, bearing on racial origins is hard to doubt. For not only are the qualities A and B inherited in a typical mendelian manner, but, as I have shown,[5] the proportions of the four blood groups in a given population, provided no outside admixture occurs, can remain practically the same for an indefinite number of generations.

The data on some of the races recorded are inadequate, and there are many important races concerning which we have no information whatever. The need of a coordinated investigation[6] covering the whole world with uniform technic is evident.

Besides the study of the well recognized group agglutinogens A and B, it is possible that in the future a study of the distribution of the subgroup agglutinogens, discovered by von Dungern and Hirshfeld[7] and recently brought to our attention by Guthrie and Huck and others,[8] may lead to a deeper understanding of the subject.

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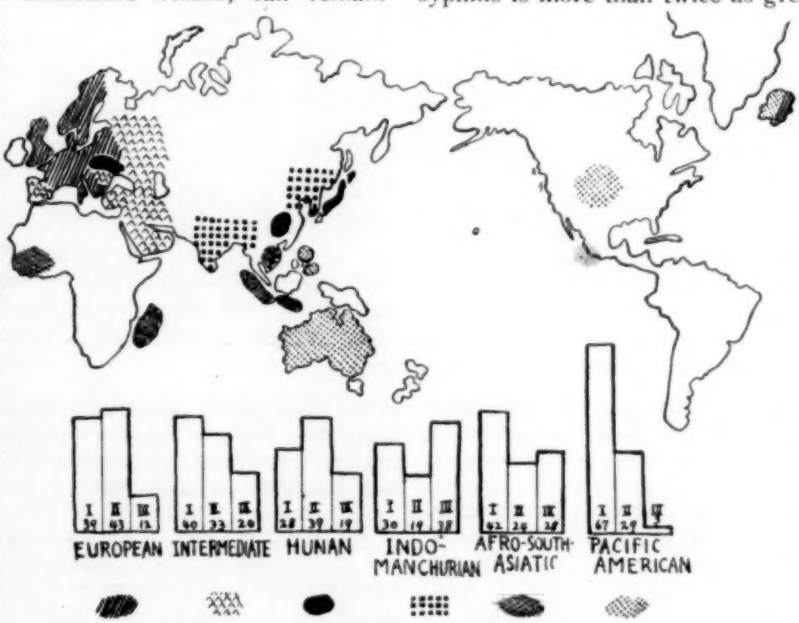

Distribution of populations having different types of blood group combinations; below, average percentages of Blood Groups I, II and III in each type.

5. Ottenberg, Reuben: J. Immunol. **8**: 11 (Jan.) 1923.
6. Such an investigation is now under consideration by the Committee on Human Migrations of the National Research Council.
7. Von Dungern and Hirshfeld: Ztschr. f. Immunitätsforsch. u. exper. Therap. **8**: 527, 1911.
8. Guthrie, C. G., and Huck, J. G.: Bull. Johns Hopkins Hosp. **34**: 37 (Feb.), 80 (March), 128 (April) 1923; **35**: 23 (Jan.), 33 (Feb.), 126 (April), 221 (July) 1924. Coca, A. F., and Klein, H.: J. Immunol. **8**: 447 (Nov.) 1923. Landsteiner and Witt: Proc. Soc. Exper. Biol. & Med. **21**, 1924. Lattes, L., and Cavazzuti, A.: J. Immunol. **8**: 407 (Sept.) 1924.

School Medical Inspectors in New York.—There are about 1,200 school medical inspectors in New York State. Ninety-one of these are engaged in cities, sixty-five in large villages, and the rest in rural communities. Full-time school medical inspectors are now employed in eleven cities and in four villages. Since September, 1923, ten full-time school medical inspectors have been added to the service. These full-time physicians devote the regular school hours to the service and receive from $2,500 to $4,000 for ten months' service. In rural communities our school medical inspectors are paid from 50 cents to $1.50 for each examination.—Howe, W. A.: *Am. J. Pub. Health* **15**:308 (April) 1925.

FAMILIAL NEUROSYPHILIS

IV. INCIDENCE OF NEUROSYPHILIS AMONG THE PARENTS OF CONGENITALLY NEUROSYPHILITIC CHILDREN *

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In the three previous papers [1] of this series, the clinical evidence relative to the existence of a neurotropic strain of *Spirochaeta pallida*, and other factors that might influence the origin of neurosyphilis, have been presented. As a result of the examination of 113 marital partners of 111 neurosyphilitic persons, it was pointed out that the incidence of neurosyphilis among the partners of persons with parenchymatous neurosyphilis is more than twice as great as in a large unselected group of women, although in the partners of persons with cerebrospinal syphilis, neurosyphilis is no more frequent than in the unselected group. In another group of three families including eight male members, each of whom had contracted syphilis from a different source, all were found to have neurosyphilis. It was thought that this could be best explained on the basis of familial predisposition.

The high incidence of conjugal neurosyphilis among the partners of parenchymatous neurosyphilitic persons is suggestive clinical evidence of the existence of a neurotropic strain of *Spirochaeta pallida*. This evidence is more or less invalidated, however, by the much lower incidence of neurosyphilis among the partners of cerebrospinal neurosyphilitic patients, and by the evident rôle of familial predisposition as a determining factor in the genesis of neurosyphilis. In this connection, it was thought that additional information might be gained by a study of the parents of children with congenital neurosyphilis. Twenty families, therefore, each of which contains one or more such children, have been subjected to investigation. As a control a second group of twenty families, in each of which one or more children suffer from congenital syphilis without demonstrable neurosyphilis, has been studied. In this paper, as in the previous ones, each patient has been subjected to a complete physical and neurologic examination, as well as an examination of the blood and spinal fluid. The material is unselected,

* From the Medical Clinic of the Johns Hopkins Hospital.

1. Moore, J. E., and Keidel, Albert: Studies in Familial Neurosyphilis, I, Conjugal Neurosyphilis, J. A. M. A. **77**: 1 (July 2) 1921; II, Familial Neurosyphilis from Various Extrafamilial Sources, ibid. **80**: 818 (March 24) 1923. Moore, J. E., and Kemp, J. E.: Studies in Familial Neurosyphilis, III, Conjugal Neurosyphilis (Second Communication), Arch. Int. Med. **32**: 464 (Sept.) 1923.

TABLE 1.—*Source of Material: Families in Which One or More of the Children Have Congenital Neurosyphilis*

	Number of Pregnancies						Data Regarding Children with Congenital Neurosyphilis					
Family Number	Total	With Neurosyphilis	Syphilis but Not Neurosyphilis	Examined, Normal	Not Examined, Living and Well	Miscarriages, Stillbirths, Died in Infancy	Pregnancy Number	Sex*	Age, Years	Clinical Diagnosis	Blood Wassermann Test	Spinal Fluid Examination
1	5	1	..	3	..	1	2	♂	7	Juvenile paresis	Positive	Positive
2	12	2	1	1	..	8	2	♀	18	Juvenile paresis	Positive	Positive
							4	♀	15	Juvenile paresis	Positive	Positive
							10	♂	10	Stigmas	Positive	Negative
3	4	1	2	..	..	1	1	♂	11	No stigmas	Positive	Negative
							2	♂	9	No stigmas	Positive	Negative
							3	♂	8	Juvenile paresis	Positive	Positive
4	6	1	2	..	..	3	1	♀	12	Interstitial keratitis, eighth nerve partial	Positive	Negative
							2	♀	10	Stigmas	Positive	Negative
							4	♀	7	Epilepsy, optic atrophy	Positive	Positive
5	3	1	1	..	..	1	?	♀	20	Interstitial keratitis, epilepsy	Positive	Positive
6	1	1	..	..	..	..	1	♀	11	Juvenile paresis	Positive	Positive
7	1	1	..	..	..	1	2	♀	6	Juvenile paresis	Positive	Positive
8	4	1	..	3	..	..	1	♂	10	Juvenile paresis	Positive	Positive
9	2	1	..	..	..	1	1	♀	9	Interstitial keratitis, juvenile paresis, optic atrophy	Positive	Positive
10	7	1	..	1	..	5	5	♀	12	Interstitial keratitis, C. N. S. unclassified	Positive	Positive
11	5	1	..	1	..	3	4	♂	14	Interstitial keratitis, hemiplegia	Positive	Positive
12	15	1	3	2	..	9	5	♂	16	Stigmas	Positive	Negative
							6	♂	13	Stigmas	Positive	Negative
							8	♂	9	Stigmas	Positive	Negative
							13	♂	2	Juvenile paresis	Positive	Positive
13	2	1	..	..	..	1	2	♀	16	Juvenile paresis	Positive	Positive
14	5	2	..	..	..	3	4	♀	2	Convulsions, generalized rash	Positive	Positive
							5	♂	2 mo.	Convulsions, generalized rash	Positive	Positive
15	3	1	..	..	..	2	?	♂	9	Optic atrophy	Positive	Positive
16	6	1	..	1	..	4	2	♀	7	Generalized convulsions	Positive	Positive
17	2	1	..	..	..	1	?	♀	1	Generalized convulsions	Positive	Positive
18	3	1	..	..	..	2	?	♀	11	Interstitial keratitis, saddle nose, epilepsy	Positive	Positive
19	1	1	..	..	..	..	1	♀	1	Generalized convulsions, peri-ostitis, dactylitis	Positive	Positive
20	3	1	1	..	1	..	1	♂	14	Juvenile paresis	Positive	Positive
							2	♂	9	No stigmas	Positive	Negative
Total....	90	22	10	12	1	46						

* In this column, ♂ indicates male, and ♀, female.

except in the foregoing respect, and will be considered under these two headings. With the exception of a mother from each group, one with early secondary and another with recurrent secondary syphilis at the time of examination, all parents had been infected for at least four years. Two mothers show stigmas of congenital syphilis, and their children almost certainly represent third generation syphilis (Family 12, Table 2, and Family 15, Table 5).

CONGENITAL NEUROSYPHILIS GROUP

Table 1 embodies the essential data regarding the forty-five children of this group who have been examined. The table presents conclusive evidence of neurosyphilis in at least one child of each family. Of a total of ninety pregnancies in these families, forty-six, or 51 per cent. resulted in miscarriages or still-born children. Of the forty-six living children, thirty-two have syphilis, and of these, twenty-two, or 69 per cent., have neurosyphilis. The nervous system was involved in two children in each of two families. Eleven times the type of neurosyphilis was juvenile paresis; seven times, epileptiform attacks; twice, optic atrophy; once, meningovascular neurosyphilis resulting in a hemiplegia, and once, an unclassified cerebrospinal involvement.

Table 2 presents a summary of the data regarding the parents of these children. Of the twenty mothers, all of whom have syphilis,[2] clinical or serologic evidence of neurosyphilis is present in eight, or 40 per cent. Six fathers were not examined, and one, without a spinal fluid examination, has been omitted from consideration. Of the remaining thirteen fathers, twelve have syphilis, and all of these have neurosyphilis. Thus, of the thirty-three parents in this group who have been examined, thirty-two have syphilis, and of these, 62.5 per cent. are neurosyphilitic. Of the total of eighty-five members of these twenty families, seventy-seven

2. Moore, J. E.: Studies on the Influence of Pregnancy in Syphilis, I, The Course of Syphilitic Infection in Pregnant Women, Bull. Johns Hopkins Hosp. **34**: 89 (March) 1923.

TABLE 2.—*Results of the Examination of Parents of Children with Congenital Neurosyphilis*

	Mother			Father		
Family Number	Physical Examination	Blood Wassermann	Spinal Fluid Examination	Physical Examination	Blood Wassermann	Spinal Fluid Examination
1	Negative	Positive	Negative	General paresis	Positive	Positive
2	Tabes	Positive	Positive	Not examined		
3	Negative	Positive	Negative	General paresis	Diagnosis elsewhere	
4	Not Examined	Positive	Positive	General paresis	Diagnosis elsewhere	
5	Pupillary and reflex changes	Positive	Positive	Not examined		
6	Negative	Negative	Negative	Not examined		
7	Negative	Positive	Negative	Negative	Negative	Negative
8	Skin gumma	Positive	Negative	Paresis, optic atrophy	Positive	Positive
9	Tabes	Positive	Positive	Not examined		
10	Pupillary and reflex changes	Positive	Positive	Tabes	Negative	Positive
11	Negative	Negative	Negative	General paresis	Examination elsewhere	
12	Congenital syphilis	Positive	Negative	Not examined		
13	Negative	Negative	Negative	Tabes	Positive	Positive
14	Pupillary changes	Positive	Positive	Not examined		
15	Skin gumma	Positive	Negative	Tabes	Positive	Positive
16	Negative	Negative	Negative	Tabes	Positive	Positive
17	Pupillary and reflex changes	Positive	Positive	Pupillary and reflex changes	Positive	Positive
18	Negative	Positive	Negative	Negative	Negative	Not done
19	Recurrent secondaries	Negative	Negative	Pupillary changes	Positive	Positive
20	Left hemiplegia	Negative	Positive	Many vascular accidents	Positive	Positive

have been examined and sixty-four, or 83 per cent., have been found to be syphilitic. Of these, forty-two, or 65.6 per cent., have neurosyphilis.

CONGENITAL NON-NEUROSYPHILITIC GROUP

The essential data regarding the children of the congenital non-neurosyphilitic group are given in Table 4. Of a total of 102 pregnancies, forty, or 39 per cent., resulted in miscarriages or still-born children. Of the sixty-two living children, twenty-eight are known to have syphilis, but in none is there clinical or serologic evidence of neurosyphilis.

TABLE 3.—*Families with Congenital Neurosyphilitic Children*

Family Number	Number of Individual Members	Number of Members Examined	Number of Members with Syphilis	Number of Members with Neurosyphilis
1	6	6	3	2
2	6	5	4	3
3	5	5	5	2
4	5	5	5	3
5	4	3	3	2
6	3	2	2	1
7	3	3	2	1
8	6	6	3	2
9	3	2	2	2
10	4	4	3	3
11	4	4	3	2
12	8	7	5	1
13	3	3	3	2
14	4	3	3	3
15	3	3	3	2
16	4	3	3	2
17	3	3	3	3
18	3	3	2*	1
19	3	3	3	2
20	5	4	4	3
Total	85	77	64	42

* One father with a negative blood Wassermann reaction and negative physical examination, but no spinal fluid examination, not included.

twenty-nine are definitely syphilitic, but in only four, or 13.7 per cent., is there evidence of invasion of the central nervous system. These four parents represent the total incidence of neurosyphilis among the sixty-one persons, parents and children, studied. Of this whole group, however, 93.4 per cent. are syphilitic (Table 6).

COMMENT

In Table 7 is given a summary of the results of the examination of the parents of the two groups of children. Among the mothers of neurosyphilitic children the incidence of neurosyphilis is 40 per cent., eight times as frequent as in the other group and nearly twice as frequent as in a large unselected group of women.[3]

Of the thirteen fathers of neurosyphilitic children, twelve have syphilis, and all of these have neurosyphilis, the incidence of neuraxis involvement in this group being three times as great as among the fathers of children without congenital neurosyphilis and about two and one-half times as frequent as among a large unselected group of men with late syphilis.[3]

As may be seen from Tables 1 and 2, no relationship between the type of neurosyphilis in the parents and the children can be determined. It is of interest, however, that in most of the parents the disease was parenchymatous in type, and that conjugal neurosyphilis was present in four families.

The high incidence of neurosyphilis among the parents of congenitally neurosyphilitic children is very suggestive evidence of the existence of a strain of *Spirochaeta pallida* possessing a selective affinity for the nervous system. On the other hand, it may also be interpreted as evidence of the existence of a familial constitutional tendency to nervous system disease. In

TABLE 4.—*Source of Material: Families in Which Children Do Not Have Congenital Neurosyphilis*

	Number of Pregnancies					Data Regarding Children with Congenital Syphilis					
Family Number	Total	With Syphilis	Examined Normal	Not Examined Living and Well	Miscarriages Stillbirths, Died in Infancy	Child Number	Sex	Age, Years	Clinical Diagnosis	Blood Wassermann Test	Spinal Fluid Examination
1	5	1	..	1	3	4	♀	12	Interstitial keratitis, mental deficiency	Positive	Negative
2	5	1	..	3	1	4	♀	9	Interstitial keratitis, mental deficiency	Positive	Negative
3	5	3	..	..	2	1	♂	20	Stigmas	Positive	Negative
						2	♀	17	Hutchinsonian teeth	Positive	Negative
						3	♀	14	Stigmas, healed interstitial keratitis	Positive	Negative
4	5	1	1	1	2	1	♂	18	Interstitial keratitis	Positive	Negative
5	5	1	..	4	..	1	♂	13	Chorioretinitis	Positive	Negative
6	5	2	..	..	3	1	♂	14	Stigmas	Positive	Negative
						2	♀	10	Interstitial keratitis	Positive	Negative
7	9	1	..	4	4	2	♂	11	Periostitis, tibiae	Positive	Negative
8	13	1	..	5	7	?	♀	3	Acute interstitial keratitis	Positive	Negative
9	11	2	..	7	2	?	♀	14	Gumma, pharynx	Positive	Negative
						?	♀	9	Stigmas	Positive	Negative
10	6	2	..	1	3	1	♀	17	Stigmas	Positive	Negative
						2	♂	14	Stigmas	Positive	Negative
11	5	1	..	2	2	?	♂	6	Healed interstitial keratitis	Positive	Negative
12	4	3	..	..	1	2	♀	20	Stigmas, idiocy	Negative	Negative
						3	♀	16	Diagnosis, doubtful imbecile	Negative	Negative
						4	♀	14	Interstitial keratitis, gumma, palate	Positive	Negative
13	6	1	..	2	3	3	♀	22	Splenomegaly, periostitis, tibiae, anemia	Positive	Negative
14	4	2	..	..	2	1	♂	8	Stigmas	Positive	Negative
						2	♀	6	No evidence of syphilis	Positive	Negative
15	1	1	..	..	..	1	♀	24	Acute interstitial keratitis, gumma, soft palate, bilateral eighth nerve deafness	Positive	Negative
16	1	1	..	..	..	1	♀	18	Acute interstitial keratitis at age of 2 years	Positive	Negative
17	6	1	1	1	3	1	♂	18	Osteitis, tibia	Positive	Negative
18	1	1	..	..	..	1	♀	4	No physical evidence of syphilis	Positive	Negative
19	3	1	..	..	2	3	♀	1 mo.	General glandular enlargement	Positive	Negative
20	2	1	..	1	..	1	♂	15	Stigmas	Positive	Negative
Total	102	28	2	32	40						

Nineteen of the mothers of this group (Table 5) have been examined, and only one is neurosyphilitic. Of the twelve fathers examined, ten have syphilis, and of these, three, or 33 per cent, are neurosyphilitic. Thirty-one parents in this group have been examined, of whom

a previous communication, we[4] have shown that such a predisposition to central nervous system involvement

3. Moore, J. E.: Studies in Asymptomatic Neurosyphilis, III, The Apparent Influence of Pregnancy on the Incidence of Neurosyphilis in Women, Arch. Int. Med. **30**: 548 (Nov.) 1922.
4. Moore and Keidel (Footnote 1, second reference).

appears, in some cases, to be a factor of importance in determining the origin of neurosyphilis, and may therefore form the basis of neuraxis involvement in some of these children, regardless of the strain of the infecting organism. It is altogether possible that both factors, namely, neurotropism and a constitutional tendency to nervous system syphilis, may be jointly responsible for the genesis of neurosyphilis in some persons. The question cannot be settled, however, until more experimental evidence is available and until more is known concerning the life cycle of the organism.

TABLE 5.—*Results of the Examination of Parents of Children Without Congenital Neurosyphilis*

Family Number	Mother			Father		
	Physical Examination	Blood Wassermann	Spinal Fluid Examination	Physical Examination	Blood Wassermann	Spinal Fluid Examination
1	Negative	Negative	Negative	Taboparesis	Positive	Positive
2	Negative	Positive	Negative	Not examined		
3	Negative	Positive	Negative	Not examined		
4	Negative	Negative	Negative	Not examined		
5	Chorioretinitis	Positive	Negative	Not examined		
6	Negative	Positive	Negative	Pupillary and reflex changes	Positive	Positive
7	Negative	Positive	Negative	Not examined		
8	Negative	Positive	Negative	Tabes	Negative	Positive
9	Negative	Positive	Negative	Negative	Positive	Negative
10	Gumma, sternoclavicular joint	Positive	Negative	Gumma, sternoclavicular joint	Positive	Negative
11	Negative	Positive	Negative	Negative	Negative	Negative
12	Not examined			Aortitis	Negative	Negative
13	Negative	Positive	Negative	Not examined		
14	Skin gumma	Positive	Negative	Skin gumma	Positive	Negative
15	Congenital syphilis	Positive	Negative	Negative	Negative	Negative
16	Negative	Positive	Negative	Negative	Positive	Negative
17	Negative	Positive	Negative	Negative	Positive	Negative
18	Negative	Positive	Negative	Not examined		
19	Early secondary syphilis	Positive	Negative	Negative	Positive	Negative
20	Tabes	Positive	Positive	Not examined		

TABLE 6.—*Résumé of Families Without Congenital Neurosyphilitic Children*

Family Number	Number of Individual Members	Number of Members Examined	Number of Members with Syphilis	Number of Members with Neurosyphilis
1	4	3	3	1
2	6	2	2	..
3	5	4	4	..
4	5	3	2	..
5	7	2	2	..
6	4	4	4	1
7	7	2	2	..
8	8	3	3	1
9	11	4	4	..
10	5	4	4	..
11	5	3	2	..
12	5	4	4	..
13	5	2	2	..
14	4	4	4	..
15	3	3	2	..
16	3	3	3	..
17	5	3	2	..
18	3	3	3	..
19	3	3	3	..
20	4	2	2	1
Total	102	61	57	4

TABLE 7.—*Summary of Families*

	Number of Families	Mothers				Fathers			
		Examined	Normal	With Syphilis	With Neurosyphilis	Examined	Normal	With Syphilis	With Neurosyphilis
Families with one or more neurosyphilitic children	20	20	0	20	8 (40%)	13	1	12	12 (100%)
Families with one or more children with congenital syphilis but not neurosyphilis	20	19	0	19	1 (5%)	12	2	10	3 (33%)

This difference is sufficiently striking to suggest the existence of a neurotropic strain of *Spirochaeta pallida* responsible for the production of neurosyphilis. Familial predisposition to neurosyphilis may, however, be a factor of equal importance in determining this type of the disease.

SUMMARY

On the basis of twenty families in each group, it was found that neurosyphilis was eight times as frequent among the mothers and over three times as frequent among the fathers of congenitally neurosyphilitic children as among the parents of children with congenital syphilis without demonstrable neurosyphilis.

This difference is sufficiently striking to suggest the existence of a neurotropic strain of *Spirochaeta pallida* responsible for the production of neurosyphilis. Familial predisposition to neurosyphilis may, however, be a factor of equal importance in determining this type of the disease.

ANTAGONISTIC ACTION OF POSTERIOR PITUITARY EXTRACT AND INSULIN *

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DETROIT

Sufficient experimental and clinical data are at hand to prove that the pituitary gland is related to carbohydrate metabolism. Goetsch, Cushing and Jacobson [1] noted that injections of posterior pituitary extract produced glycosuria, and Achard, Ribot and Binet [2] also found that injections of this extract caused glycosuria. The latter likewise noted that the hyperglycemia produced by intravenous glucose solutions was increased by the simultaneous injections of pituitary extract. It is logical, therefore, to study the effects of posterior pituitary extract and insulin on blood sugar. Burn [3] studied this problem, proving that the pituitary extract has a powerful antagonistic effect on the lowering of blood sugar produced by insulin. His conclusions, in part, are that subcutaneous injections of posterior pituitary extract given simultaneously with injections of insulin diminish or abolish the fall of sugar produced by the latter. The doses of pituitary extract used do not, when given alone, produce a rise of blood sugar to explain this inhibition of the action of insulin as being the result of an algebraic sum. Pituitary extract removes the symptoms of hypoglycemic convulsions, causing rapid elevation of blood sugar.

METHOD

Thirty-six rabbits, weighing from 2 to 4 kg., were used for the experiments. They were starved for twenty-four hours before the experiments were begun. Samples of blood were drawn from the ear veins of the unanesthetized animals, and blood sugar determinations were made according to the method of Folin.

The posterior pituitary extracts used were the commercial products "Infundin" of Burroughs, Welcome & Co., and "Pituitrin" of Parke, Davis & Co. No difference was noted in their effects. The injection

* From the Buhl Memorial Laboratory, Harper Hospital.

1. Goetsch, E.; Cushing, H., and Jacobson, G.: Carbohydrate Tolerance and the Posterior Lobe of the Hypophysis Cerebri: An Experimental and a Clinical Study, Bull. Johns Hopkins Hosp. **22**: 165-190, 1911.
2. Achard, C.; Ribot, A., and Binet, L.: Action des extraits d'organs sur l'hyperglycémie provoquée, Compt. rend. Soc. de biol. **132**: 788, 1919.
3. Burn, J. H.: Modification of Action of Insulin by Pituitary Extract and Other Substances, J. Physiol. **57**: 318-329 (June) 1923.

of pituitary extract was by the intravenous and subcutaneous route.

The insulin was that prepared by the Eli Lilly Company and was of the "U 10" strength.

THE INSULIN EFFECT

Ten rabbits were used to determine the effect of insulin on the blood sugar. We found that it required 80 units of insulin to produce death in all cases. Much smaller amounts were necessary to produce the hypoglycemic convulsions. In Chart 1, a typical curve produced by the injection of 40 units of insulin is given.

The convulsions usually took place when the blood sugar levels reached a point between 0.04 and 0.03 per cent.

Three rabbits were used for the experiments with pituitary extract alone. We arbitrarily injected intravenously 2 c.c. of the extract. We found that the amount of extract injected made no difference in the blood sugar curve. A slight rise in blood sugar took place about thirty minutes after the injection. The

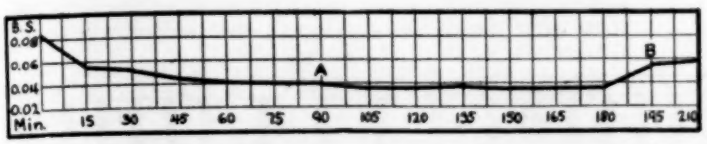

Chart 1.—Blood sugar in insulin control: Rabbit 8, weighing 2 kg.; 40 units of insulin at 0 minutes; *A*, convulsions; *B*, recovery.

effect on each individual rabbit was the same on repeated injections.

Chart 2 illustrates a typical curve obtained with the injection of pituitary extract.

COMBINED EFFECTS OF INSULIN AND PITUITARY EXTRACT

For the combined effect of insulin and pituitary extract injections, seventeen rabbits were used. We used doses of insulin varying from 20 to 80 units, and from 2 to 3 c.c. of pituitary extract.

Three of the rabbits died. Rabbit 7 received 80 units of insulin and 2 c.c. of pituitary extract. One hour later, while in convulsions, an additional 1 c.c. of pituitary extract was given, but it died in three and one-half hours after the initial dose. Rabbit 13 received 20 units of insulin and 3 c.c. of pituitary extract in one dose. It died in convulsions after four hours. Rabbit 14 received 20 units of insulin and 3 c.c. of pituitary extract; it died in four hours. We are unable to account for their deaths, as some of the rabbits received as high as 80 units of insulin and were protected by only 2 c.c. of pituitary extract. The remaining fourteen rabbits were protected by the pituitary extract and had but a slight fall in blood sugar. Following the injection of pituitary extract, the vasoconstriction was so marked that great difficulty was encountered in drawing blood from the ear veins.

Chart 2.—Blood sugar in pituitary extract control: Rabbit 6, weighing 2.4 kg.; 2 c.c. of pituitary extract at 0 minutes.

In some cases it was necessary to perform cardiac puncture to obtain the blood.

Chart 3 gives a typical curve of the simultaneous injection of insulin and pituitary extract.

EFFECT OF PITUITARY EXTRACT ON HYPOGLYCEMIC CONVULSIONS

Six rabbits were used to study the effect of pituitary extract on hypoglycemic convulsions induced by insulin. From 20 to 40 units of insulin was injected, and after the rabbits were in convulsions, 2 and 3 c.c. of pituitary

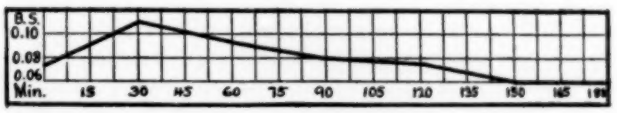

Chart 3.—Blood sugar after simultaneous administration of pituitary extract and insulin; 40 units of insulin and 3 c.c. of pituitary extract.

extract was injected. It required about ten minutes for the rabbits to recover after the pituitary extract injection. One rabbit weighing 3 kg., which received 40 units of insulin and 3 c.c. of pituitary extract, had a rise in blood sugar to 0.074 per cent. one hour after the pituitary extract injection, but two hours after the injection went into convulsions, having a blood sugar level of 0.035 per cent. It recovered, however, without the addition of any more pituitary extract.

Chart 4 gives a typical curve of the effect of pituitary extract on hypoglycemic convulsions.

THEORETICAL CONSIDERATIONS

Burns' conclusion that the doses of pituitary extract used do not, when given alone, produce a rise of blood sugar to explain the inhibition of the action of insulin as being the result of an algebraic sum, gives a clue to the explanation.

Since there is but a slight rise in the blood sugar following pituitary extract injections, it follows that the inhibition of the fall in blood sugar must be explained on the basis of the peripheral blood sugar rise. In other words, the pituitary extract calls forth from certain tissues enough sugar to prevent a marked hypoglycemia. We may venture the opinion, then, that the

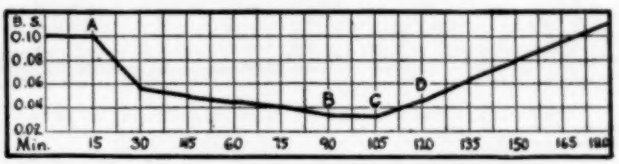

Chart 4.—Effect of pituitary extract on hypoglycemic convulsions in a rabbit weighing 3.2 kg.; *A*, 40 units of insulin; *B*, convulsions; *C*, 3 c.c. of pituitary extract; *D*, recovery.

posterior pituitary is another link in the chain to maintain a constant blood sugar level.

In a previous communication,[4] the close relationship existing between the related portions of the mesoderm, viz., the mesenchyme and the mesothelium, was emphasized. It was stated that the posterior pituitary lobe secretion has a selective action on the mesenchyme, and in another communication [5] it was stated that the suprarenal cortex secretion has a selective action on the mesothelial tissues. The point that we wish to emphasize is that the posterior pituitary secretion has a selective action on mesenchymal tissues and on the allied tissues, the mesothelium. The suprarenal cortex is a mesenchymal tissue and has a selective action on the mesothelial tissue, which includes the skeletal muscle system.

4. Moehlig, R. C.: Selective Tissue Action of Posterior Pituitary Gland, New York M. J. & Rec. (Supp.) **128**: 55-59 (Aug. 20) 1924.
5. Moehlig, R. C.: The Selective Action of the Suprarenal Cortex Secretion on Mesothelial Tissues, Am. J. M. Sc. **168**: 553-564 (Oct.) 1924.

That the posterior lobe secretion affected the mesothelial tissues through the intermediary of the suprarenal cortex was stressed. We refer the reader to this article, which gives the data for the opinion. Leaving aside the question as to whether pituitary extract acts on the muscular metabolism through the intermediary of the suprarenal cortex, it is evident that a peripheral action on the muscular metabolism furnishes us with a ready explanation for understanding the phenomenon seen in the experiments. This would mean that the pituitary extract, directly or indirectly, produced a conversion of muscle glycogen into glucose. There are ample data to show that pituitary extract improves muscle tone. Urechia and Graff [6] injected pituitary extract into thirteen subjects, and found by the ergograph that the ability to work was increased.

From work performed on diabetic patients, we believe that pituitary extract injections improve the muscular asthenia to a great extent. This is true despite the fact that the patients, for the purpose of the work, were not placed on a diet.

Patients with hypopituitarism suffer from asthenia, and fatigue is easily induced. The opposite is true in cases of hyperpituitarism.

Cases of muscular dystrophy with pituitary involvement are fairly frequent.[7]

Partos and Katz-Klein [8] found that when posterior pituitary extract is injected into rabbits, there is a hypoglycemia produced and an increase in the water content of the blood. They believe that the point of attack is the periphery. We have dismissed from consideration the possibility that the fat cells, as part of the mesenchymal tissues under pituitary control, may furnish the glucose to account for the action of pituitary extract as set forth in the experiments.

The points given are merely theoretical considerations, but offer what would seem to be a reasonable explanation of the behavior of the blood sugar as shown in the experiments.

6. Urechia, C. J., and Graff, F.: Ann. de med. **12**:64-69 (July) 1922.
7. Maas, O., and Zondek, H.: Beobachtungen an einen Fall von Dystrophia myotonica, Berl. klin. Wchnschr. **57**:788-789, 1920. Friedman, E. D.: Progressive Muscular Dystrophy, J. Nerv. & Ment. Dis. **54**:294-297 (Oct.) 1921. Duchesnau, G.: Constribution a l'étude anatomique et clinique de l'acromégalie, Lyons, 1891, No. 633.
8. Partos, A., and Katz-Klein, Frieda: Ueber den Einfluss des Pituitrin auf den Blutzucker, Ztschr. f. d. ges. exper. Med. **25**:98, 1921.

CONCLUSIONS

1. Posterior pituitary extract injected into normal rabbits produces, as a rule, a slight rise in blood sugar.
2. Posterior pituitary extract, when injected simultaneously with insulin, prevents the fall produced by the latter.
3. Posterior pituitary extract, injected during insulin hypoglycemic convulsions, produces a rapid rise in blood sugar, with subsequent recovery of the rabbits.
4. The point of attack of the pituitary extract seems to be in the periphery; viz., the skeletal muscle metabolism.

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DIABETIC COMA COMPLICATED BY ACUTE RETENTION OF URINE

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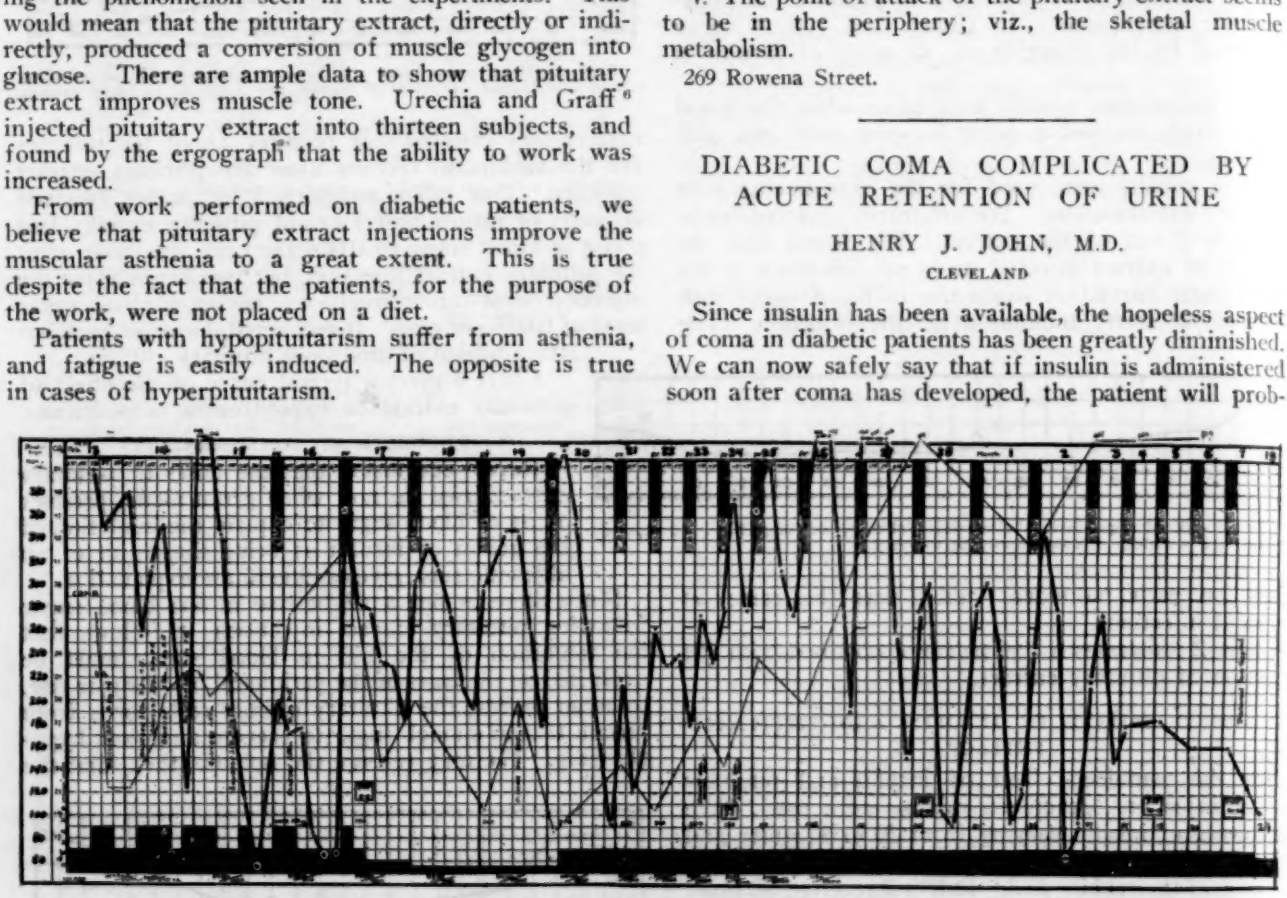
Since insulin has been available, the hopeless aspect of coma in diabetic patients has been greatly diminished. We can now safely say that if insulin is administered soon after coma has developed, the patient will probably recover; whereas, after ten or more hours of deep coma, insulin is of little avail. In the latter case, even though the blood sugar is reduced and the chemical acidosis of the blood is partly cleared up, the patient dies. The toxic products of the acetone bodies affect especially the cardiac muscle, and cardiac failure is quite a common immediate cause of death in these cases. Thus, early and controlled treatment with insulin, together with digitalization of the heart muscle, emptying the intestinal tract, keeping the body warm, and the intravenous injection of glucose to supply both food and liquids to the body still remain our best therapeutic aids.



Progress of patient with diabetic coma, with retention of urine, under treatment with insulin and with hypertonic salt solution. The blood sugar content is represented by the heavy black lines, the intersecting dots representing the actual blood sugar observations. The long columns in the upper part of the chart indicate the diet; the black portion represents the carbohydrates; the shaded portion, the proteins; and the blank portion, the fats. Each square represents 20 gm. The daily insulin dosage is indicated by the black columns at the bottom of the chart, each square representing ten units.

In one of my cases of diabetic coma there developed a marked retention of urine, with an increase of the different metabolites of the blood and a persistently low carbon dioxid volume in the plasma, these conditions continuing for quite a long time in spite of large doses of insulin. After a few days, edema in the tissues began to develop.

REPORT OF CASE

The patient was a married man, aged 26. The only previous diseases mentioned in his history were chickenpox in childhood, and influenza five years before. Diabetes had been discovered one year before, the onset of the disease being marked by the classic symptoms. A diabetic diet was prescribed, but the patient did not adhere closely to it. During the following winter, he had several severe colds. For about two weeks before he was brought to the clinic he had not been feeling well; he had been quite weak, and about two days before he began to have severe cramps in the bowels and stomach. During the year he had lost more than 20 pounds (9 kg.) and had nocturia four or five times. A state of coma developed gradually.

As the patient lived in the country, I was consulted by his physician, whom I directed to begin at once the administration of 20 units of insulin hypodermically, and to repeat this dose every two hours until they arrived at the clinic. The patient was in a deep coma on his arrival and had a blood sugar content of 400 mg. per hundred cubic centimeters; plasma acetone, 2 plus; plasma carbon dioxid, 36.6 per cent. by volume at first, but dropping to 21.4 per cent. by volume during the next hour, as is shown on the chart. The blood pressure was 90 systolic and 60 diastolic. The breath had a heavy odor of acetone; the respiration was labored.

It is interesting to note, as is shown by the chart, that the low carbon dioxid tension continued for fourteen days. This may have been due to the kidney retention and the resultant edema of the body cells.

The blood urea on the third day was 162 mg. per hundred cubic centimeters and gradually rose to 255. Since the urinary output was so small, on the sixth day I gave him 500 c.c. of Fisher's solution (sodium chlorid, 1.4 per cent.; sodium carbonate, 1 per cent.) intravenously, following which, the kidney output immediately rose, so that three days later it equaled the water intake, and on the fourth day much exceeded the water intake. The blood urea likewise began to diminish three days later, coming down to normal, March 2, seventeen days after admission. The mental state of the patient cleared up on the third day. The administration of Fisher's solution was continued for two days by means of a rectal drip.

Blood Urea and Kidney Function Tests

Date	Blood Urea, Mg. per 100 C.c.	Blood Creatinin, Mg. per 100 C.c.	Phenol-sulphone-phthalein, per Cent.	Blood Uric Acid, Mg. per 100 C.c.
February 16	162	3.1	.....	5.2
February 17	192	3.7	none/none	...
February 18	...	...	.....	...
February 19	201	...	.....	...
February 20	222	...	.....	...
February 21	255	...	.....	...
February 22	210	...	.....	...
February 23	204	...	.....	...
February 24	126	...	.....	...
February 25	171	...	5/5	...
February 26	138	...	.....	...
February 27	66	2.3	.....	...
February 28	42	...	15/20	...
March 1	51	...	.....	...
March 2	36	...	.....	1.3
March 3	57	...	.....	...
March 4	57	...	.....	...
March 5	15	1.3	30/15	...
March 6	24	...	.....	...
March 7	...	...	50/20	...
March 18	24	...	.....	...

Although the blood sugar dropped twice to a marked hypoglycemic level, yet there was no reaction at any time. It will be noted that, February 26 and 27, the blood sugar rose to 467 mg. per hundred cubic centimeters, although the routine was unchanged. In fact, February 25, 26 and 27, the insulin dosage was raised by 20 units, 100 units a day being given in five intravenous doses. From February 27 on, the blood excursions were less marked, the routine still remaining unchanged, but the kidney complication had cleared up. March 3, the diet was reduced to 80 gm. of carbohydrate, 60 gm. of protein and 100 gm. of fat, a total of 1,460 calories. Up to this time, the patient had received 100 gm. of carbohydrate, 60 gm. of protein and 120 gm. of fat, a total of 1,800 calories.

Another interesting feature is the result of the phenolsulphonephthalein kidney function test, which, as shown by the chart, ran parallel with the blood urea.

While the mental condition of the patient cleared in three days, yet the carbon dioxid volume of the plasma persisted low until February 27 (fifteen days). It would appear, as stated above, that the edema, which probably was present throughout all the body tissues, retained the acid products, in spite of the large doses of insulin, especially since after the administration of Fisher's solution the edema disappeared and the urine output rose, the acidosis clearing up likewise.

CONCLUSIONS

1. Persistently low carbon dioxid values in cases of diabetic coma may be due to edema of the tissues.

2. The administration of hypertonic salt solution (Fisher's solution) is of value in cases of acute retention of urine associated with diabetic coma.

3. The kidney complications in this case—urine retention, low phenolsulphonephthalein output and high urea content in the blood—ran parallel courses.

EFFECTS OF RADIATIONS OF COD LIVER OIL

PRELIMINARY NOTE *

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PORTLAND, ORE.

Cod liver oil, egg yolk and other naturally occurring foodstuffs are known to be curative of rickets. The radiations of ultraviolet light bring about the same result. In 1923, Park, Powers and Guy [1] made the statement that "the similarity between the action of cod liver oil and that of radiant energy in rickets is so close that a connection must exist between them." Kugelmass and McQuarrie [2] demonstrated that this connection existed by reason of the ability of the foodstuffs mentioned above to give off radiations of ultraviolet light. Kramer, Casparis and Howland [3] showed that both these agencies caused an increase in serum phosphorus and the deposition of calcium in bone.

It has been noted for some time that animals deprived of vitamin A develop infections of the respiratory tract and very frequently a generalized pyogenic involvement, in which organisms of an avirulent type are the etiologic agents. I [4] have called attention to many of these infections developing on diets deficient in vitamin A. Other recent evidence of similar nature has been published by Cramer [5] and by Sherman and MacLeod.[6]

It is well known that ultraviolet light is bactericidal. Gates,[7] for example, showed the lethal action of ultraviolet radiations on *Staphylococcus aureus*. To me, it seemed reasonable to assume, in view of the foregoing facts, that the reason rats failed to develop infections when raised on diets containing the fat soluble vitamin was the bactericidal action of the ultraviolet radiations that are now known to characterize such fats.

In order to prove this hypothesis, bacterial cultures were exposed to cod liver oil. During the exposure the cod liver oil, rendered alkaline, was oxygenated. This method has been shown to enhance the ultraviolet radia-

* From the department of physiology, University of Oregon Medical School.

1. Park, E. A.; Powers, G. F., and Guy, R. A.: Regulatory Influence of Cod Liver Oil on Calcium and Phosphorus Metabolism, Am. J. Dis. Child. **26**: 103 (Aug.) 1923.
2. Kugelmass, I. N., and McQuarrie, I.: Science **60**: 272, 1924.
3. Kramer, K.; Casparis, H., and Howland, J.: Ultraviolet Radiation in Rickets; Effect on Calcium and Inorganic Phosphorus Concentration in Serum, Am. J. Dis. Child. **24**: 20 (July) 1922.
4. Manville, I. A.: Pathologic Changes Occurring in White Rats Raised on Diets Deficient in Vitamin A, Arch. Int. Med., to be published.
5. Cramer, W., and Kingsbury, A. N.: Brit. J. Exper. Path. **5**: 300 (Oct.) 1924.
6. Sherman, H. C., and MacLeod, F. L.: Proc. Soc. Exper. Biol. & Med. **22**: 75, 1924.
7. Gates, F. L.: Proc. Soc. Exper. Biol. & Med. **21**: 61, 1923.

tions.[2] The results of these experiments strongly indicate an inhibitory action of cod liver oil on bacterial growth. Thus far our work seems to verify the foregoing assumption.

A still further action of cod liver oil and such foodstuffs is seen in the effect the active principle has on cell activity. In the absence of this stimulating influence, the cell remains in a quiescent or resting state.[8] This seems to indicate that the cell is dependent on this influence for the initiation and maintenance of those processes necessary for its normal activity. Normal body functioning requires that there be enough of this stimulating influence present to act on all the cells in proportion to their need. Anything less than this results in a corresponding decrease in cell activity. A slight excess may result in an increase above normal; but when a marked excess is present, stimulation is replaced by inhibition, if not by actual destruction.

Cell activity is manifested first by multiplication, either for growth or for maintenance, and secondly by normal secretory activity necessary for adequate digestive processes, resistance to infections, and general well-being. It will thus be seen that the results of an experiment will depend on the time in an animal's life during which the test diet is fed. When a deficient diet is fed to an immature animal, growth will be stopped, the secretions will be curtailed, the reproductive organs will remain infantile, and the animal will finally die of undernutrition and the effects of decreased resistance to infection. If a similar diet is fed to an adult animal, its normal functions must be carried on by the residual vitamin its body has stored. As this becomes depleted, the first function to be lost is reproductive ability. Further evidences of the gradual depletion of this reserve are manifested by an increasingly evident appearance of ill-being. On the other hand, when the diet contains an excess of this active principle, the most marked result is sterility. As with the roentgen ray and radium, the effect of the radiations seems to be selective —the cells undergoing the most rapid cell division being the most affected.

Besides the action of cod liver oil in curing or preventing rickets, we are led to conclude from the foregoing that there are two other specific actions: (*a*) There is a stimulation of cell activity and a distinct inhibitory effect on bacterial growth; (*b*) when these active substances are in excess of the amount producing stimulation, there is exerted a depressing action, the most striking manifestation of which is a lack of fertility. The separation of fat soluble A into two separate vitamins each with a specific action does not seem justified when the effects can be explained as being due to different concentrations of the same principle.

8. Mori, S.: Bull. Johns Hopkins Hosp. **33**: 357 (Oct.) 1922.

Prevention of Pellagra by New Dietary Factor.—A liberal supply of protein presumably of good biologic quality does not completely prevent, though it may modify, the clinical picture of pellagra by notably delaying or preventing the development of the distinctive dermatitis. This modifying action may be of an indirect, sparing nature. In the prevention (and presumably causation) of pellagra there is concerned a heretofore unrecognized or unappreciated dietary factor which Goldberger and Tanner designate as factor P-P. This may be effective with but little, possibly without any, cooperation from the protein factor. Factor P-P may possibly be present in brewers' yeast, in milk and (on the basis of experience with fresh meat) in lean beef; it is very low or lacking in dry soy beans, dry cowpeas, butter, cod liver oil, and canned tomatoes.—*Pub. Health Rep.* **40**:77 (Jan.) 1925.

THE VIABILITY OF TYPHOID BACILLI IN SHELL OYSTERS

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Although the epidemiologic evidence is quite conclusive that oysters grown or "floated" in contaminated waters may sometimes be the vehicle of typhoid infection,[1] there appear to be relatively few observations on the duration of life of typhoid bacilli in shell oysters under the ordinary conditions of shipment and storage. Foote,[2] who injected shell oysters with 1 c.c. of a broth culture and kept them at a temperature of from 50 to 65 F., found typhoid bacilli in the "juice" and in the stomach after thirty days. Herdman and Boyce,[3] using the better method of floating the oysters in water to which typhoid bacilli were added, showed the presence of the bacilli in stored shell oysters "up to ten days." Field,[4] after carrying on similar investigations, concluded that when the oysters were removed from the infected tank and kept either directly on ice or else in a compartment of the icebox, there was a very slight diminution of the number of bacteria per cubic centimeter and a slight increase in the percentage of *B. typhosus* present. No exact time data were given in this report, but in a brief abstract of a paper read by the same author at the meeting of a medical society,[5] it was stated that "on the ninth day practically all the bacteria are dead." Klein[6] found that typhoid bacilli survived in oysters for from seven to eleven days, and reported several instances in which he had discovered *B. typhosus* in shellfish coming from polluted sources, even in one case in a sample of oysters "brought over direct from America, 1903." Stiles[7] also reported isolating typhoid bacilli from floated oysters seven and twenty-one days after storage at 39 F.

The data here recorded were obtained in connection with an outbreak of typhoid in Chicago apparently due to oysters, and I am indebted to Dr. H. N. Bundesen, commissioner of health, for an opportunity to make these observations.[8]

A barrel of shell oysters weighing approximately 250 pounds was received direct from the Bluepoints Company, West Sayville, Long Island, N. Y. The barrel was opened two hours after reaching the laboratory and each oyster was examined separately; they appeared to be in excellent condition, only seven being found dead in the entire barrel. Two 20-liter carboys of sea water taken from the immediate vicinity of the oyster beds were received in the same shipment; the carboys had been packed in ice during transit.

The oysters were at once transferred to an icebox, and on the following day were divided into four lots and completely immersed in sea water (15 C.) in large glass jars. To three of the jars a suspension of

1. Conn, H. W.: Report of Connecticut State Board of Health, 1894, p. 243. Bulstrode, H. T.: Thirty-Second Report to Local Government Board, 1903, supp., p. 129. Fuller, G. W.: J. Franklin Inst., 1905, p. 81. Stiles, G. W., Jr.: Bull. 156, U. S. Dept. Agric., Bureau of Chemistry, Sept. 21, 1912. Bundesen, H. N.: Typhoid Epidemic in Chicago Apparently Due to Oysters, J. A. M. A. **84**: 641 (Feb. 28) 1925; Weekly Bull. Dept. of Health, City of New York **13**: 393, 1924; **14**: 89, 1925.
2. Foote: M. News **66**: 320, 1895.
3. Herdman and Boyce in Thompson-Yates Laboratories Report **2**, 1899.
4. Field, C. W.: Report of New York City Board of Health, 1904, p. 451.
5. Field, C. W.: M. News, **85**: 571, 1904.
6. Klein: Report of Investigations on Behalf of the Worshipful Company of Fishmongers, London, 1905.
7. Stiles: Bull. 156, U. S. Dept. Agric., Bureau of Chemistry, Sept. 21, 1912.
8. I have been assisted in the laboratory work by L. L. Shlenker and H. E. McDaniels.

typhoid bacilli from a twenty-four hour agar slant was added; different strains, Barmore, Hopkins and Rawlings, were used for each of these jars; to the fourth jar no typhoid bacilli were added. The oysters were allowed to remain in the water for one hour, during which time they opened and closed their shells several times. At the end of the hour they were picked up separately with forceps, allowed to drain, and placed in labeled, sterile halves of Petri dishes—one oyster to a dish. The dishes were transferred to an icebox, which ranged in temperature during our observation from 5 to 8 C., remaining most of the time at 5. The oysters remained alive over a thirty day period, but dried out noticeably toward the end of this period.

In the bacterial examination the following procedure was used: The oyster was scrubbed under a stream from the tap, picked up with tongs, dipped for a second in alcohol, and then passed through a flame to ignite the alcohol. A sterile knife was then inserted and the muscle cut.

Viability of Typhoid Bacilli in Shell Oysters Floated for One Hour in Sea Water Contaminated with Typhoid Bacilli and Then Stored at from 5 to 8 C.

No. Days After Contamination	Typhoid Bacilli Isolated and Identified Strains			
	Barmore	Hopkins	Rawlings	Control
1	+	+	+	0
2	+	+	+	0
3	+	+	+	0
5	+	0	+	0
6	+	+	+	0
7	+	+	+	0
8	+	+	+	0
9	+	+	+	0
10	+	+	+	0
11	+	+	+	0
12	+	+	+	0
13	+	+	+	0
14	0	+	+	0
15	+		+	0
16	0	+		0
17	+		+	0
18	0	+		0
19	0	+	+	0
21	+	+		0
22		+	+	0
23	0		+	0
24	0		+	0
25	0	0	0	0
26	0	0	0	0
27	0	0	0	0
28	0	0	0	0
29	0	0	0	0
30	0	0	0	0

The shell liquor and stomach contents were streaked on separate Endo plates. The plates were examined after twenty-four hours' incubation at 37 C., and typical colonies picked to dextrose, lactose and saccharose broths; Russell's medium and a macroscopic agglutination with the laboratory antityphoid serum diluted 1:1,000 were also employed in identifying the recovered organisms. All cultural and serologic procedures were carefully controlled with pure cultures.

The work of examination was much simplified by the high degree of bacterial purity of the oysters. None of the uncontaminated oysters used for control showed any typhoid-like colonies on Endo plates throughout the thirty day period. In no instance were any *B. coli* found. In every case in which typhoid bacilli were present in the stomach contents of the contaminated oysters they were also found in the shell liquor, and vice versa. There was no evidence of multiplication of the typhoid bacilli in the oysters. After the first few days a perceptible diminution in numbers was apparent.

SUMMARY

Shell oysters artificially contaminated with typhoid baci li by floating for one hour in sea water to which typhoid bacilli had been added and then placed at ice box temperature (from 5 to 8 C.) were found to contain living typhoid bacilli for as long as twenty-four days.

There was no evidence of multiplication, and after the first few days a diminution in numbers was plainly apparent. Of the three strains used, one was found to survive to the twenty-first day, one to the twenty-second and one to the twenty-fourth.

VIABILITY OF BACILLUS TYPHOSUS IN OYSTERS DURING STORAGE *

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Many epidemics of typhoid fever have been attributed to raw oysters grown in polluted waters. Conn,[1] Pennington,[2] Bulstrode,[3] Thresh and Wood,[4] Soper,[5] Netter,[6] Stiles,[7] Brooks [8] and others have referred to oysters as the probable source of infection of more or less definite epidemics. More recently, a typhoid outbreak of 129 cases in Chicago, the epidemiology of which was reported by Bundesen,[9] and concurrent outbreaks in other cities of the United States, have brought the subject of oyster-borne typhoid again into prominence. The evidence incriminating oysters in most of the reported cases has been epidemiologic in nature, for the actual isolation of *B. typhosus* has been accomplished in very few instances.

Klein,[10] Johnstone [11] and Stiles have reported the isolation of *B. typhosus* from oysters taken from sewage-contaminated beds. A typhoid-like organism reported by Johnstone did not conform strictly in its biologic characteristics to *B. typhosus*. The evidence, however, in support of the identity of the typhoid organisms isolated by Klein and Stiles appears to be more convincing.

The infrequency with which *B. typhosus* has been isolated from suspected oysters, the knowledge that polluted oysters purify themselves in a short time when placed in unpolluted water, and the fact that bacteria disappear within the oyster during hibernation under natural conditions have been the basis for an opinion somewhat prevalent in the oyster industry that polluted oysters purify themselves in a short time during storage.

Many investigators have reported on the viability of *B. typhosus* in sea water, but little published work has been done in connection with the survival of *B. typhosus* in oysters kept under storage conditions. Stiles reported the isolation of *B. typhosus* in two instances in seven and twenty-one days, respectively,

* From the Bureau of Laboratories, Chicago Department of Health.

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8. Brooks, P. B.: An Outbreak of Typhoid Attributed to Infected Oysters, J. A. M. A. **66**: 1445 (May 6) 1916.
9. Bundesen, H. N.: Typhoid Epidemic in Chicago Apparently Due to Oysters, J. A. M. A. **84**: 641-650 (Feb. 28) 1925.
10. Klein, E.: Lancet **2**: 1113-1114, 1905.
11. Johnstone, J.: J. Hyg. **9**: 433, 1909.

after removal of the oysters from contaminated beds. These were kept out of water in storage at 39 F. Klein has stated that living oysters contaminated with large numbers of *B. typhosus* "clean themselves" in from nine to twelve days when placed in pure water frequently changed, and that oysters kept in a dry state, though capable of destroying the bacillus, retain the organisms for a much longer period than those placed in clean water constantly renewed.

TABLE 1.—*Survival of B. Typhosus in Shucked Oysters Stored at 98 F.*

Age	Condition of Oyster	Typhoid Bacillus Count on Endo's Medium per C.c.
At outset	Good	74,000,000
1 day	Sour	2,500,000
4 days	Sour	None found
5 days	Sour	None found

In connection with Bundesen's study of the typhoid outbreak of 1924, in Chicago, attributed to polluted oysters by federal investigators and others, the need of definite knowledge as to how long typhoid bacilli could remain alive in oysters under ordinary conditions of storage became of paramount importance. The Bureau of Laboratories and Research of the Chicago Department of Health therefore undertook experiments to determine the length of time required for the disappearance of typhoid bacilli from heavily contaminated oysters under various conditions.

PROCEDURE

Living shell oysters were placed at room temperature in a 4 per cent. solution of sea salt water, prepared by dissolving commercial sea salt in distilled water. After the oysters began to exhibit activity, typhoid bacilli, washed from fifty agar slants which had been incubated for twenty-four hours at 37 C., were added to the water. The organisms used were a mixture of the Rawlings strain and a strain known as the Barmore strain isolated in this laboratory from a typhoid carrier in 1920. The oysters were allowed to remain in this contaminated water for forty-eight hours at from 60 to 70 F., and then were transferred to dry, sterile containers. One of the series was kept at room temperature (70 F.) and the other was placed in a refrigerator at 45 F.

TABLE 2.—*Survival of B. Typhosus in Shucked Oysters Stored at 70 F.*

Age	Condition of Oyster	Typhoid Bacillus Count on Endo's Medium per C.c.
At outset	Good	74,000,000
1 day	Sour	140,000,000
4 days	Sour	180,000
5 days	Sour	None found
7 days	Sour	2,000,000
8 days	Moldy	None found

One gallon of shucked oysters was also contaminated with typhoid bacilli washed from fifty agar slants after twenty-four hours' incubation at 37 C. No sea water was added in this case, the oyster juice bathing the oysters being relied on to obtain distribution of the bacteria throughout the mass with the aid of stirring. After forty-eight hours' exposure to the typhoid bacilli at room temperature (70 F.), each shucked oyster, with about 10 c.c. of fluid, was placed in a sterile test tube. These tubes were divided into three lots, which were stored at 98, 70 and 45 F., respectively.

In the subsequent determination of the bacterial content, the shell oysters were at first opened under conditions simulating those of the trade, except for the use of rubber gloves to protect the worker. The findings up to the seventeenth day represent the typhoid bacilli, both within the oyster and on the exterior of the shell. After twenty-two days, a test of the shell exterior of the live oysters kept in the icebox was made. This examination disclosed that about 50,000 typhoid bacilli were present in 1 c.c. of a pint of water used in washing the exterior of the shell. Subsequent to the twenty-two day period, all oysters that were alive, as shown by a tightly closed shell, were trephined and the tests made only on the interiors. In this method every precaution was taken to prevent the typhoid bacilli present on the outside of the shell from entering the interior. Sufficient fluid for the test was obtained by inserting a sterile pipet through a small trephined opening made in the shell, which had been sterilized by a direct flame from a Bunsen burner. This procedure was undertaken to determine with certainty whether or not typhoid bacilli were present in the interior of the oyster shell. Dead oysters were thereafter flamed thoroughly to exclude organisms present on the exteriors.

TABLE 3.—*Survival of B. Typhosus in Shucked Oysters Stored at 45 F.*

Age in Days After Exposure	Condition of Oyster	Typhoid Count per C.c.
At outset	Good	74,000,000
1	Good	200,000,000
4	Good	125,000,000
5	Slightly sour	120,000,000
7	Sour	65,000,000
8	Sour	100,000,000
9	Sour	80,000,000
11	Moldy	25,000,000
14	Sour	20,000,000
17	Sour	3,000,000
22	Sour	100,000
26	Sour	None found
30	Sour	None found

The dilutions employed in plating were seven; viz., 1:10, 1:100, 1:1,000, 1:10,000, 1:100,000, 1:1,000,000 and 1:10,000,000.

The *B. typhosus* count was made by inoculation of 0.1 c.c. of each dilution on the surface of a plate of Endo's medium. After the experiment had been in progress for some time, in addition to the foregoing amounts, 0.2 and 0.5 c.c. of the undiluted oyster juice or, in the case of dead and dried oysters, 0.2 and 0.5 c.c. of sterile wash water that had been added to the oyster, were plated. A uniform distribution of colonies was obtained by streaking or spreading the diluted oyster juice over the surface of the medium with a sterile glass rod bent at right angles about an inch from its end. All counts were made after incubation at 37 C., for forty-eight hours.

The *B. typhosus* count was easily determined because of the characteristic appearance of the typhoid colony on Endo's medium in forty-eight hours at 37 C. The accuracy of this method was checked by inoculating bouillon from a number of the suspected typhoid colonies and agglutinating them macroscopically after growth for eighteen hours at 37 C. in a dilution of 1:1,000 with a standardized antityphoid serum. In the course of the experiment, all but one of 192 suspected colonies selected were typically agglutinated by the antityphoid serum.

The last surviving typhoid bacillus cultures from each batch of oysters stored at different temperatures were confirmed in the following respects:

1. Microscopic examination showed them to be gram-negative, motile bacilli.
2. The micro-organisms failed to ferment lactose and sucrose, but fermented dextrose and maltose with acid production at 37 C. in five days.
3. They failed to liquefy gelatin in thirty days at 20 C.
4. They were completely agglutinated macroscopically by a standardized antityphoid serum in dilutions up to 1:3,200.

DOSAGE OF B. TYPHOSUS USED IN THE EXPERIMENT

The *B. typhosus* count on the sea salt water in which the shell oysters were exposed was 200,000,000 per cubic centimeter. The *B. typhosus* count of the oyster juice of the shucked oysters subsequent to the inoculation was 74,000,000, Endo's medium being used.

The dosage of typhoid bacilli used is probably in excess of any contamination that might occur under natural conditions. A large dose was used advisedly, however, in order to study the possible bactericidal or eliminative power of the storage oyster, and to determine how long the oyster would remain a suitable medium for the survival of the organism.

SURVIVAL OF B. TYPHOSUS IN SHUCKED OYSTERS AT DIFFERENT TEMPERATURES

The time of survival of *B. typhosus* in shucked oysters kept in storage at 98 F. is shown in Table 1.

B. typhosus in shucked oysters stored at 98 F. disappeared rapidly, for of 74,000,000 per cubic centimeter originally present, only 2,500,000 per cubic centimeter were found in twenty-four hours, and none were found after four days.

At 70 F., *B. typhosus* had disappeared from the shucked oysters on the eighth day after the organisms were added. At this time the oysters had become dry and moldy, and the examination for *B. typhosus* was discontinued.

In this series, *B. typhosus* was found to survive for twenty-two days. The organisms gradually disappeared, until none were found on the twenty-sixth day after exposure. The decrease in the number of typhoid organisms extending over the three weeks' period was fairly regular.

TABLE 4.—*Survival of B. Typhosus in Shell Oysters Stored at 70 F.*

Age in Days After Exposure	Condition of Oyster	Typhoid Bacillus Count on Endo's Medium per C.c.
1	Good; valves closed	250,000
4	Drying; valves open	600,000
5	Dry; valves open	500
7	Good; valves closed	6,000
8	Drying; valves open	200,000
9	Putrid; valves open	None found

SURVIVAL OF B. TYPHOSUS IN SHELL OYSTERS AT DIFFERENT TEMPERATURES

The life of *B. typhosus* in shell oysters is of greater sanitary significance than in shucked oysters, for the former are frequently consumed raw, while the latter are ordinarily served in a cooked state.

Typhoid bacilli were found in considerable numbers on the eighth day subsequent to contamination in shell oysters kept at ordinary room temperature (70 F.). The condition of the oysters after this time was such that they could not have been served for food because of their state of decomposition. After the seventh day all were dead, the valves were opened, the moisture had evaporated, and the oyster meat was decomposed. Examination of such an oyster on the ninth day disclosed the presence of many *B. coli* but no *B. typhosus*.

In this series, thirty-nine shell oysters in all were tested for the presence of living typhoid bacilli. The latter were found in considerable numbers for a period of sixty days subsequent to contamination of the oysters.

TABLE 5.—*Survival of B. Typhosus in Shell Oysters Stored at 45 F.*

Age in Days After Exposure	Condition of Oyster	Typhoid Bacillus Count on Endo's Medium per C.c.
1	Good; valves closed	130,000
4	Good; valves closed	200,000
5	Good; valves closed	20,000
7	Good; valves closed	25,000
8	Good; valves closed	200,000
9	Good; valves closed	230,000
11	Good; valves closed	60,000
14	Dry; valves open	200,000
17	Decomposed; valves open	50,000
17	Good; valves closed	400,000
24	Dry; valves open	70,000
26	Valves closed*	2,500
28	Valves closed*	80
28	Valves closed*	600
28	Drying; valves open†	115,000
32	Good; valves closed*	30
32	Good; valves closed*	250,000
37	Drying; valves open	100
39	Good; valves closed*	10,000
39	Good; valves closed*	100,000
41	Decomposed; valves open	200,000
46	Decomposed; valves open	5,000
53	Dry; valves open	5,000
60	Dry; valves open	40
62	Dry; valves open	None found
66	Dry; valves open	None found

* Alive, trephined and contents only examined.
† Average count of fourteen oysters, in four of which oyster fluid had evaporated.

SUMMARY

Shucked oysters were contaminated with typhoid bacilli and stored at 98, 70 and 45 F. In the oyster fluid, *B. typhosus* survived in considerable numbers for one, four and twenty-two days, respectively.

Living shell oysters were contaminated with large numbers of typhoid bacilli and stored at 70 and 45 F. At the former temperature, *B. typhosus* survived in the fluid within the shells for eight days; at the latter temperature, which is the ordinary icing temperature of the trade, the organisms were found to survive for sixty days.

The exterior of the shells of oysters exposed for forty-eight hours to a 4 per cent. sea salt solution, containing large numbers of *B. typhosus*, after storage in the icebox at 45 F., showed the presence of typhoid bacilli on the twenty-third day.

Shell oysters, the condition of which was such that they could not be served for food because of decomposition, with valves open, moisture evaporated and oyster meat rotten, were still found to contain living typhoid bacilli in considerable numbers.

CONCLUSIONS

The longevity of *B. typhosus* in the oyster juice of both shucked and shell oysters in storage varies with the temperature at which they are kept. In general, the temperature best suited for the preservation of the oyster tends to prolong the life of typhoid bacilli in the oysters.

Under conditions simulating those of the trade, viz., at icing temperature (45 F.), typhoid bacilli survived

for twenty-two days in shucked oysters and for sixty days in shell oysters.

No evidence of bactericidal power or eliminative action against *B. typhosus* was observed in living shell oysters during dry storage at 45 F. The microorganisms survive for a longer period than the oysters.

SUGAR THRESHOLD IN ONE HUNDRED CASES OF DIABETES

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That the threshold point of glycuresis in diabetes shows wide variations is an important fact, clinically, because it reveals the inadequacy of urinary sugar examinations and the necessity for blood sugar findings in the management of this disease. Marked variations in the blood sugar level at which glucosuria occurs are observed in groups of patients, and even in the same patient the sugar threshold often manifests striking changes.

In order to demonstrate these facts, a statistical study was made on 100 patients with diabetes receiving dietetic and insulin therapy at the George Washington University Hospital and Dispensary. The sugar threshold was determined in each patient by selecting the lowest blood sugar at which simultaneously a positive qualitative Benedict's test was obtained from the twenty-four hour specimen of urine. Only cases were selected in which there were adequate blood and urinary sugar estimations

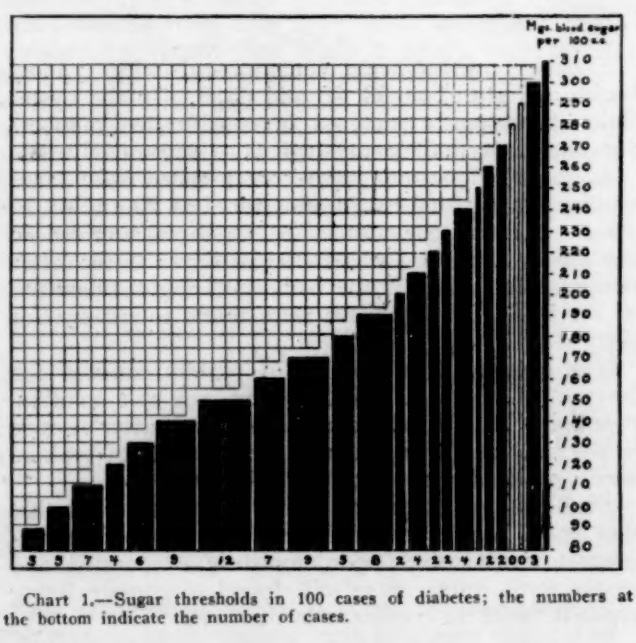

Chart 1.—Sugar thresholds in 100 cases of diabetes; the numbers at the bottom indicate the number of cases.

to establish a consistent value for the so-called sugar threshold.

The results of this survey are shown graphically in Chart 1. The length of the columns represents sugar threshold values in milligrams of dextrose per hundred cubic centimeters of blood. These values range from 80 to 310 mg. The width of each column represents, according to scale, the number, or percentage, of cases showing faint glycuresis at that particular blood sugar level. It will be seen in this chart that the greatest number (twelve) of threshold values was observed in the 150 milligram region, which is generally considered a beginning pathologic blood sugar. It will be noted also that about 50 per cent. of the cases showed a beginning glycuresis within the conventional threshold ranges of from 140 to 190 mg. of blood sugar. However, a very important observation is that a relatively large number of cases showing high threshold values was found, and a considerable number of renal cases was noted.

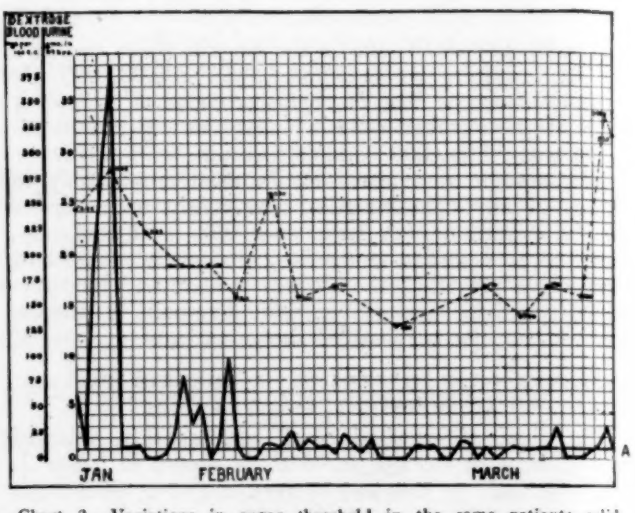

Chart 2.—Variations in sugar threshold in the same patient: solid line, urine sugar; broken line, blood sugar; *A*, beginning glycuresis.

In Chart 2, threshold variations in the same patient are shown. It will be noted that the first threshold value is at 223 mg. of blood sugar, and a few days later, at 190 mg. of blood sugar, an elevation in the urinary sugar considerably above the threshold quantity occurs. Subsequently, 160, 260, 170 or 320 mg., might be taken to represent threshold points. Such variations in the same patient as these frequently occur,

Relation of Nephritis to Sugar Threshold

Case	Mg. Blood Sugar, per 100 C.c.	Urine			Kidney Function Test: Phenolsulphonephthalein, Total Percentage in 2 Hrs.
		Sugar	Albumin	Casts	
1	380	Trace	Present	Present	..
2	343	0.3 %	Present	Present	40
3	300	Negative	Present	Present	32
4	300	Negative	Present	Present	15
5	300	Negative	Present	Present	33
6	260	Trace	Present	Present	19
7	253	Trace	.....	.....	30
8	250	Trace	Present	Present	26
9	246	0.2 %	Present	Present	19
10	230	Trace	Present	Present	17

and they serve to illustrate further that no definite relationship between blood sugar level and urinary sugar excretion in diabetes is to be expected.

We have no evidence suggesting a possible explanation of renal diabetes, but the laboratory records in the high threshold cases showed the existence of nephritis as an etiologic factor. The findings illustrating this fact are shown in the table. In practically all the elevated threshold cases, albumin and casts were found in the urine, and the phenolsulphonephthalein kidney function tests showed low excretion values. This evidence indicates that nephritis raises the blood sugar level at which glucosuria occurs.

SUMMARY

1. The sugar threshold in 100 cases of diabetes was determined, which showed beginning sugar excretion levels ranging from 80 to 310 mg. of blood sugar.

2. Coexistence of nephritis with diabetes is apparently the cause of the very high sugar thresholds found.

3. These facts show the importance of blood sugar findings and the insufficiency of urinary sugar examinations in diabetes.

THE USE OF PHYSOSTIGMIN IN ABDOMINAL DISTENTION

PRELIMINARY REPORT *

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Every one who practices abdominal surgery observes gastric and intestinal distention occasionally, which symptom is responsible for much of the postoperative distress that frequently follows abdominal operations. This distention is usually relieved by such ordinary measures as enemas, gastric lavage or colonic irrigation, but it sometimes follows a relatively simple operation, such as that for the removal of the appendix during the interval following an acute attack, and it may even cause death in such cases despite all treatment. It is evident, therefore, that any measure which affords relief in those cases in which a fatal termination is to be feared, deserves careful consideration.

There are many references in the literature to the use of physostigmin for the relief of abdominal distention, but the application is based on theoretical considerations rather than on clinical experience, and recent observers state that the drug is uncertain in its therapeutic effects and that it sometimes causes undesired side actions, emphasis being placed on the danger of depressing the heart. The dose of physostigmin commonly recommended is 1 mg. (1/60 grain) or less of the salicylate, while exceptionally as little as 0.4 mg. (1/150 grain) or as much as 2.5 mg. (1/25 grain) is given.[1]

There have been few or no reports of careful clinical observations of the effects of physostigmin alone, though some observers have reported the results of its use in combination with other drugs. Cross [2] recommends the use of 0.4 mg. (1/150 grain) of physostigmin with pituitary extract. He also used the physostigmin alone in doses of 0.6 mg. (1/100 grain), without any perceptible effect in six of fifteen patients with abdominal distention. Martzloff [3] reported recently that he had been unable to perceive any benefit from the postoperative use of physostigmin as a prophylactic. He injected the salicylate subcutaneously in doses of 0.6 mg. with 1.5 mg. (1/40 grain) of strychnin sulphate. Bartlett [1] states that he found physostigmin in doses of 2.5 mg. (1/25 grain) of great value in the treatment of postoperative distention. He does not mention the use of larger doses or the repetition of those employed.

A review of recent literature seems to show that physostigmin is seldom used at present for the relief of this distention, although its well known pharmacologic actions indicate that it is capable of affording relief when employed properly. We therefore undertook a clinical study of the subject with especial reference to the dosage necessary in those cases in which simple measures had proved ineffective. The observations were made during the last twelve months (1924-1925); further clinical and pharmacologic studies of the problem are being made.

We divide the cases for convenience into two groups:

1. Nontoxic cases in which abdominal distention followed laparotomy, surgical shock, early intestinal obstruction, or injury to the central nervous system.

2. Toxic cases in which the condition was associated with peritonitis or general toxemias, such as pneumonia or longstanding intestinal obstruction.

In every case various simple measures, such as gastric lavage, enemas, turpentine stupes and colonic irrigation were employed when distention occurred, and physostigmin was not used unless those measures proved ineffective, our purpose being to learn whether physostigmin is capable of relieving these patients. We have no data, therefore, concerning the dosage necessary for the relief of the patients who respond to simple measures. All the patients who received physostigmin were in a serious condition, and all manifested alarming symptoms.

DOSAGE

The results of our observations indicate that different patients show considerable individual variation in susceptibility to the actions of this drug. The smallest single therapeutic dose that afforded relief in any of our cases was 2 mg. (1/30 grain); a few patients received single doses of 8.6 mg. (1/8 grain), the average single dose employed by us being 4 mg. (1/16 grain). One patient required a total of 13 mg. (1/5 grain) administered in three doses within a period of four hours, the total being equal to thirteen times the average single therapeutic dose stated in the United States Pharmacopeia. The condition of this patient was especially grave before the physostigmin was given, and it continued to cause concern even after 8.6 mg. (1/8 grain) had been administered in two doses.

Physostigmin in solution decomposes readily with the formation of rubreserin, which gives a pink or red color to the solution; hence, only freshly prepared solutions should be employed.

All patients were observed with reference to general behavior and the symptoms indicating relief from distention or actions of the drug. Records were kept of the blood pressure, pulse rate and respiration. In every case, a rectal tube was inserted in order to facilitate the expulsion of flatus.

ACTION OF DRUG

The actions of physostigmin may be thus summarized: It is absorbed promptly after intramuscular injection, and we believe that this method of administration is to be preferred to subcutaneous injection. Within from ten to forty minutes after the injection of an effective dose, the patient belches or expels gas from the rectum. These effects gradually increase in frequency, and the volume of gas expelled becomes greater; defecation accompanied by moderate colic may occur; there may be

* From the Second Surgical and Second Medical (Cornell University Medical College) divisions of Bellevue Hospital.

1. Bartlett, Willard: After Treatment of Surgical Patients, St. Louis, C. V. Mosby Company **1**, Chapter XVI, p. 128.

2. Cross, D. G. T. K.: The Action of Physostigmin and Pituitrin: The Action of These Drugs Alone and Combined upon the Isolated Human Vermiform Appendix; the Advantage of Their Continued Use in Postoperative Ileus, Brit. M. J. **1**: 9 (Jan. 5) 1924.

3. Martzloff, K. H.: The Use of Eserin and Strychnine in Postoperative Abdominal Distention: The Clinical Study to Determine the Prophylactic Influence of These Drugs in the Prevention of Abdominal Distention Following Operations on the Pelvic Viscera, Together with Some Other Considerations, Bull. Johns Hopkins Hosp. **35**: 370 (Nov.) 1924.

slight nausea, with its resulting increase in the rate and volume of respiration and a sensation of weakness. Patients with acute dilatation of the stomach, who have previously vomited, frequently show a temporary increase in the emesis, after which they cease to vomit and feel greatly relieved. Moderate perspiration occurs almost invariably, and profuse sweating is not infrequently observed. The pulse rate is usually increased by from ten to twenty beats a minute, and this is sometimes preceded by a moderate decrease. There is commonly a rise in blood pressure equivalent to from 10 to 20 mm. of mercury. In two cases, the rise was equivalent to 30 and 50 mm., respectively.

During the progress of these signs and symptoms, and following the belching, vomiting and passing of gas, the previously greatly distended abdomen becomes soft, smaller and even scaphoid, these changes being accompanied by marked improvement in the patient's general condition.

All of the sixteen patients embraced in the group of nontoxic cases of abdominal distention were completely relieved of this distressing symptom by the injection of physostigmin. The fifteen patients embraced in the toxic group were benefited but little or not at all. We will attempt to explain the difference in this respect in a subsequent paper in which the results of further studies of the persistence of action of the drug in animals and man and its elimination will be discussed. The relief was permanent in most cases, but in a few there was a gradual return of the distention in from three to six hours after the administration of the drug, and in some cases the dose was repeated from one to three times after intervals of from three to six hours.

Individual differences in the reactions of patients to the drug are to be expected, but we find no evidence that the dose required in any individual case, and graduated according to individual needs, causes depression of the heart so much insisted on with reference to overdosage, and it is worthy of note that seven of our patients suffered from pneumonia of a severe type.

The results of our experience indicate that the drug should be administered in doses sufficient to induce its characteristic therapeutic effect or until the occurrence of systemic actions indicates that the limits of safe dosage have been reached.

SUMMARY

Physostigmin is a useful drug for the treatment of abdominal distention in nontoxic cases, especially. It is less useful in cases of the toxic type.

It has fallen into disuse mainly because of the employment of insufficient doses, partly, perhaps, because of the failure to distinguish the type of cases in which it is more effective (nontoxic type) from those in which it is less effective (toxic type).

The effective dose of the salicylate or benzoate, in cases which do not yield to simple measures, is from 3 to 4 mg. (from $\frac{1}{20}$ to $\frac{1}{16}$ grain) injected intramuscularly. Such a dose may be repeated once after an hour if the first does not induce any systemic effects, and it may be repeated three times (at least) at intervals of three or four hours if there are no symptoms which indicates that its systemic effects persist. The general condition of the patient and his behavior toward the drug must be observed carefully and must serve as a guide for the repetition of the dose.

We have not determined the dose required for those patients who respond to simple therapeutic measures, such as rectal enemas.

PATHOLOGY OF THE HYPOPHYSIS

III. CHRONIC HYPOPHYSITIS; FIBROSIS *

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AND
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In 1914, Simmonds [1] described a pathologic condition which he designated "hypophysial cachexia." The patient was a woman, the anterior lobe of whose hypophysis was transformed into a mass of "cell-poor and elastin-poor connective tissue with small capillary spaces" containing a few cords or small groups of round cells. He believed that the lesion was the result of a "septic necrosis" of the hypophysis due to a severe puerperal sepsis occurring eleven years before death. In 1916, Fraenkel [2] reported an essentially similar case. Simmonds [3] later added four cases, and, in 1923, Jakob [4] described two more. These eight cases showed a definite clinical picture characterized by chronic cachexia with marked atrophy of the internal organs, as in senility; wrinkling of the skin of the face; loss of the teeth; stoppage of menstruation (all of these patients were women), and loss of axillary and pubic hair. The one constant pathologic finding was the almost complete destruction of the anterior lobe of the hypophysis and its replacement by connective tissue. Fahr,[5] however, has reported a case in which the hypophysis was "transformed into a mass of connective tissue, poor in cells and with numerous areas of calcification." This patient, a woman aged 50, did not show the syndrome described by Simmonds.

In a series of cases reported by Rössle,[6] Simmonds [7] and Sternberg,[8] a similar lesion in the anterior lobe of the hypophysis, apparently dating from early childhood, was associated with dwarfism, hypoplasia of the other glands of internal secretion, and failure of development of the secondary sex characteristics.

It appears from these reported cases that complete or almost complete replacement of the glandular portion of the hypophysis by fibrous tissue usually results in serious disturbances of metabolism, inducing emaciation and premature senility if it occurs late in life, and dwarfism if it develops in early childhood.

The results of less marked fibrosis of the anterior lobe of the hypophysis are not so well known. We have studied seven cases which showed varying degrees of increase of connective tissue in the pars anterior of the hypophysis. None of our specimens showed the extreme grade of fibrosis described by Simmonds. Instances similar to ours have been reported in the literature, but none of the papers give sufficient details to permit forming an opinion as to the significance of the lesion. Boyce and Beadles [9] mention three cases of fibrous change in the hypophysis in insane patients. Thaon [10] and Dialti [11] observed sclerotic changes in the form of small islands of connective tissue in the anterior lobe in

* From the Department of Pathology, Northwestern University Medical School.

1. Simmonds, M.: Deutsch. med. Wchnschr. **40**: 322, 1914.
2. Fraenkel: Deutsch. med. Wchnschr. **42**: 1369, 1916.
3. Simmonds, M.: Deutsch. med. Wchnschr. **44**, No. 31, 1918.
4. Jakob: Arch. f. path. Anat. u. Physiol. **246**: 151, 1923.
5. Fahr: Deutsch. med. Wchnschr. **44**, 1918.
6. Rössle: Fol. Neurobiol. **11**: 570, 1918.
7. Simmonds, M.: München. med. Wchnschr. **66**: 453, 1919; Deutsch. med. Wchnschr. **45**: 486 (May) 1919; Berl. klin. Wchnschr. **56**, 790, 1919.
8. Sternberg: München. med. Wchnschr. **67**: 59, 1920.
9. Boyce and Beadles: J. Path. & Bacteriol. **1**: 359, 1893.
10. Thaon: L'hypophyse a l'état normal et dans les maladies, Paris, 1907.
11. Dialti: Patologia e chirurgia dell' ipofisi, Siena, 1910.

tuberculous patients. Fibrosis is mentioned by Lucien,[12] Thom[13] and Schoenemann[14] as one of the senile changes occurring in the hypophysis. Simmonds[15] stated that he had observed increase of connective tissue in the anterior lobe in the aged, in heavy drinkers and in cases of severe arteriosclerosis. In many epileptics,

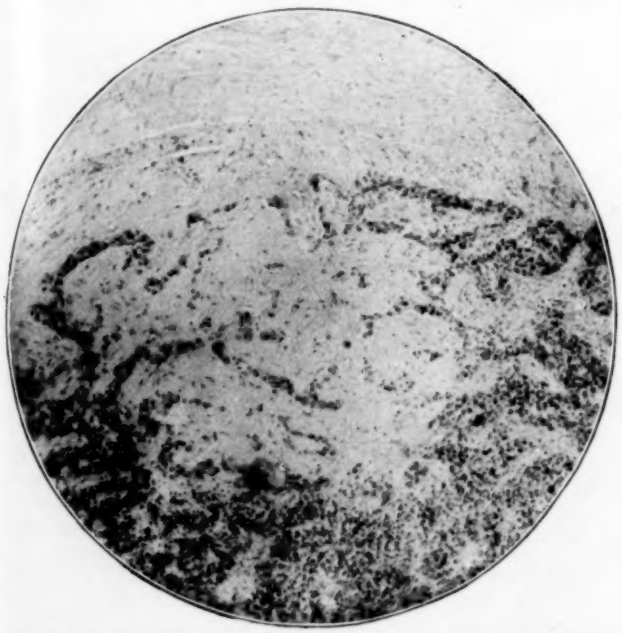

Fig. 1.—One of multiple areas of circumscribed fibrosis of the anterior lobe of the hypophysis of a markedly emaciated man, aged 80, with paralysis agitans; slightly reduced from a photomicrograph with a magnification of 100 diameters.

Munson and Shaw[16] found "a diffuse thickening of the interacinar connective tissue" of the glandular portion of the hypophysis. Schmorl[17] has asserted that diffuse proliferation of the interstitial tissue of the hypophysis is relatively common. "Marked hyperemia, hemorrhage and proliferation of connective tissue with atrophy of the glandular portion of the hypophysis[11] were observed by Eichhorst[18] in cases of cretinism and myxedema. More recently, Veit[19] has reported a case in which "sclerosis of the hypophysis" was associated with a similar lesion in the other glands of internal secretion.

In our series of more than 200 hypophyses examined in serial sections, we have encountered seven in which there was an increase of fibrous tissue in the anterior lobe. Before discussing these cases, it seems necessary to call attention to the fact that there is normally present at about the center of each lateral half of the anterior lobe a core of connective tissue which contains a rich plexus of blood vessels. From this core, branching bands of connective tissue radiate in all directions and quickly lose themselves by becoming continuous with the delicate supporting tissue framework between the epithelial cells. This mass has been observed by some authors[16] and described as pathologic. It is, however, a normal element of the anterior lobe. The diffuse and localized forms of fibrosis described in our cases is entirely different from this normal structure.

12. Lucien: Compt. rend. Soc. de biol. **70**: 487, 1913.
13. Thom: Arch. mik. Anat. u. Entwickl. **57**: 632, 1901.
14. Schoenemann: Arch. f. path. Anat. u. Physiol. **129**: 310, 1893.
15. Simmonds, M.: Verhandl. d. deutsch. path. Gesellsch. **17**: 238, 1914.
16. Munson, J. F., and Shaw, A. L.: The Pituitary Gland in Epileptics, Arch. Int. Med. **14**: 393 (Sept.) 1914.
17. Schmorl: Verhandl. d. deutsch. path. Gesellsch. **17**: 231, 1914.
18. Eichhorst: Deutsch. Arch. f. klin. Med. **124**: 207, 1917.
19. Veit, R.: Frankfurt. Ztschr. f. Path. **28**, No. 1-2, 1922.

Five of our seven patients were men. One was 40 years old; the ages of the others ranged from 52 to 80. The important clinical and pathologic findings may be thus summarized:

1. Three patients were emaciated; three were moderately well nourished, and one was somewhat obese. In one case the emaciation was probably due in part to advanced tuberculosis of the lungs; in another, to carcinoma of the stomach with extensive metastasis. In the three emaciated patients there was a general atrophy of all the organs, including brown atrophy of the heart, and other striking signs of senility.

2. Marked arteriosclerosis was present in all the patients. In one case this had led to thrombosis of a branch of the left coronary artery and infarction of a part of the wall of the left ventricle. Sclerotic changes in the arteries of the brain and kidneys were especially noteworthy in each case.

3. The thyroid was small, dark and atrophic in four cases; in one instance there was a cystadenoma of the thyroid; in another, a colloid goiter of moderate size; and in the seventh case the thyroid was normal on macroscopic examination.

4. The suprarenals were smaller than normal in only one case. Two patients had adenoma of the cortex of the suprarenal; in one instance, it was bilateral. In another, the yellow pigment of the suprarenal cortex was diminished. An adenoma of the parathyroid was present in one case.

5. The testes and ovaries showed the usual senile atrophy commonly seen in persons of advanced age. One patient had a marked chronic orchitis.

Simmonds[20] has stated that the arteries of the anterior lobe of the hypophysis are essentially end arteries. Thrombosis of, or lodgment of, an embolus in one of

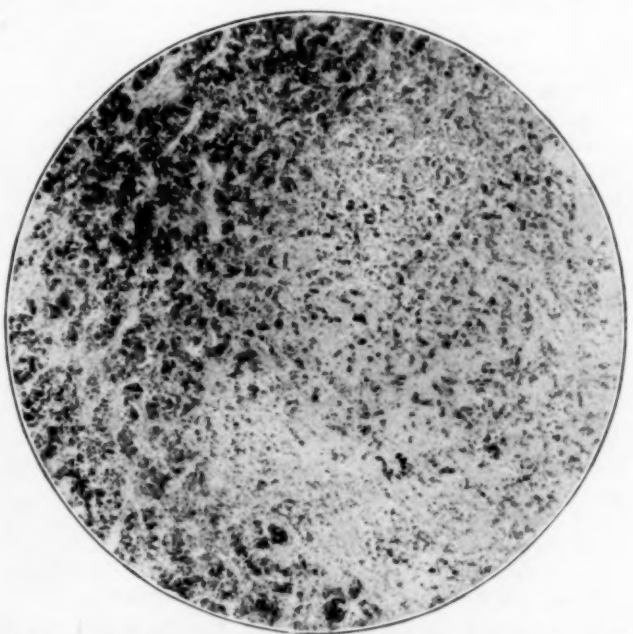

Fig. 2.—One of three rather extensive areas of fibrosis well within the substance of the anterior lobe of the hypophysis of a man, aged 69, not emaciated; slightly reduced from a photomicrograph with a magnification of 60 diameters.

these vessels will produce infarction of that part of the gland supplied by the occluded vessel. In our cases, however, the areas of fibrosis did not have the appearance of ancient infarcts, because (1) they were, in general, too poorly demarcated; (2) they were not, except

20. Simmonds, M.: Arch. f. path. Anat. u. Physiol. **217**: 226, 1914.

in one instance, in the peripheral part of the anterior lobe where infarcts are commonly located, but rather well within the substance of the gland, and (3) remains of the parenchymatous tissue were still present in the fibrosed area, although in some cases reduced to a minimum. The lesions in six of our cases appear to be fibroses resulting from disturbances of the nutrition of the parenchyma associated with arteriosclerosis, which could be demonstrated in the arteries of the hypophysis in some of the cases.

Only three of the patients of our series were emaciated, and in two of these this condition could be readily accounted for as the result of other associated pathologic changes. None of our cases, with one very doubtful exception, can with certainty be classed as hypophysial cachexia. Nor were there any other outstanding clinical manifestations that could be attributed to the lesion in the hypophysis. Simmonds [20] is of the opinion that one or more relatively small infarcts of the anterior lobe can incite the syndrome that he described. While we know little of the function of the anterior lobe of the hypophysis and still less of its "factor of safety," it does appear that the lesions which we have observed in these seven cases must have embarrassed and diminished the function of the anterior lobe. In the first place, in the affected areas, the parenchyma cells were atrophic and separated from blood vessels by a layer of dense connective tissue. This condition would, of necessity, interfere both with their nutrition and with their discharge of secretion into the blood stream. Furthermore, all these hypophyses contained less than the normal amount of blood. None of them showed the hyperemia so frequently seen in sections of the glandular portion.

It is evident from these seven cases that, with advancing age, in many persons the hypophysis undergoes fibrosis, and the body does not receive the normal amount of the secretion of this gland. Such changes may therefore be an important factor in the causation of premature senility. Attempts at rejuvenation directed to the restoration of only one gland of internal secretion cannot be successful when there is a condition of hypopituitarism due to such changes as we have here described.

One case of our series appears not to belong to this arteriosclerotic type of fibrosis. In this case, the character of the fibrosis, together with the presence of marked lymphocytic infiltration, indicates a chronic inflammatory process. The Wassermann test was negative. But the presence of perivascular round cell infiltration in the adventitia and media of the arch of the aorta, and a chronic orchitis suggest the possibility of syphilis as the etiologic factor.

SUMMARY

1. Fibrosis of the anterior lobe of the hypophysis occurs with moderate frequency in persons past 50. This condition is apparently due to arteriosclerosis of the vessels of the hypophysis. The character of the lesion is such that it must interfere with the function of the glandular portion of this organ. This suggests one of the reasons for the failure of efforts at rejuvenation that are directed to the restoration of only one gland of internal secretion.

2. One case of our series appears to be true chronic hypophysitis. In spite of the negative Wassermann test, other findings in the body suggest the possibility of syphilis as its cause.

CONGENITAL LYMPHANGIECTATIC EDEMA

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AND
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One of the most unusual and startling conditions encountered in medical practice is a form of edema of the new-born generally described under the term, congenital elephantiasis. While it is true that this is a proper designation from the standpoint of the main clinical features, nevertheless, the etiologic and pathologic variations and the differences in the character and consistency of the edema call for a descriptive title more accurate.

There are several types of this rare disease, classified according to consistency and surface, and as regards the involvement of vessels, nerves, bones, muscles and fibrous tissue. Since our case conforms rather definitely to the type involving the lymphatics, we shall describe it under the title of congenital lymphangiectatic edema.

REPORT OF CASE

History.—H. B., a white girl baby, was born, June 10, 1923. Delivery was normal. The birth weight was 6 pounds and 6 ounces (3 kg.). At birth the following conditions were noted: (1) edema of the left leg, thigh and foot; (2) edema of the left labium majus; (3) edema of the right shoulder region, the right arm, hands and fingers; (4) complete macroglossia; (5) edema of the right lower lip, with a sharp line of demarcation at the center; (6) edema of the right ear, the right upper and lower eyelids, and, finally, (7) enlargement of the right axillary lymph glands.

Measurements at Seventeen Months of Age

Arms	Right Inches	Left Inches	Legs	Right Inches	Left Inches
Axillary	7	5	Groin	9	12
Upper and middle	8	5½	Upper and middle	9½	11½
Elbow	8	5¼	Knee	6½	8
Wrist	7	4½	Lower and middle	7½	9
Hand	8¼	4	Ankle	4½	5

The general appearance of the extremities involved was one of gigantism or elephantiasis. The peculiar distribution, however, and the character of the edema, pointed to the fact that we were dealing with a very unusual type of so-called congenital elephantiasis. The edematous areas were of rather firm consistency with slight pitting, while the right hand and fingers presented an extreme degree of puffiness. A sharp crease marked the line of the wrist. The swelling of the right side of the lower lip stopped abruptly at the midline. The tongue almost completely filled the mouth. The left side of the face, the left shoulder, arm, hands and fingers were normal in appearance.

The family history was essentially negative. The parents were well, and the mother's pregnancy was normal.

As the child grew older there was little or no change in the condition. At times the edematous areas became softer, but there was never any apparent recession. At various periods of observation there has been rather an increase in the size of the affected parts, in spite of a varied line of therapy.

Feeding of the child has been one of the most difficult problems, the extreme macroglossia presenting, obviously, a mechanical interference.

The weight at 1 year was 16 pounds (7.3 kg.), and at 18 months, 23½ pounds (10.6 kg.). The measurements at 17 months are given in the accompanying table.

Wherever possible, the measurements were made by the water displacement method. A metal cylinder large enough to accommodate the edematous arm was used, and first the fluid capacity was noted. The cylinder was then half filled with water, the arm immersed, and the cylinder filled. The arm was then withdrawn, and the displacement noted. The displacement for the right arm was 750 c.c.; for the left, 325 c.c.

Treatment.—During the period in which the child has been under observation, almost every possible form of treatment has been instituted. Massage has been given at various intervals, a distal stroke being used. Elastic bandages were applied frequently, a special, tapered band being employed. The following radium treatments were given by Dr. A. Strauss: April 8, 1924, one 12.5 mg. needle at 3 mm. over the dorsum of each finger and thumb for forty minutes; 100 mg. in 0.5 mm. silver at 3 mm. over the dorsum of the hand in two positions, crossing at 30 mm. April 30, the dose was repeated thirty minutes over the fingers, twenty minutes over the hand; also 100 mg. at 1 mm., and five needles totaling 60 mg., arranged an equal distance over the dorsum of the forearm, twenty minutes. Two needles totaling 25 mg. in 2 mm. rubber over the upper and lower eyelids, fifteen minutes. Dr. Strauss reported that there was a distinct softening of the hand and some shrinkage of the little finger noted by May 20, with a slight erythema obtained on the hand, which was more marked on the eyelids.

From June 17 to September 16, the child received a course of roentgen-ray and deep therapy treatments. Following this, over a period of one month, theobromin sodiosalicylate, 3 grains (0.2 gm.), thrice daily, was given, with no appreciable effect. Thyroid was next given in increasing doses, beginning with one-tenth grain (0.006 gm.) three times a day, up to a maximum of one-half grain (0.03 gm.) three times a day. There was no noticeable effect other than a marked irritability. This was continued for two months.

Laboratory Findings. — The erythrocytes, leukocytes and hemoglobin were all within normal limits. A differential count revealed nothing. Urinalyses were negative.

Fig. 1.—Appearance of patient at 16 months: macroglossia; edema of upper and lower right eyelids; edema of right side of lower lip.

The results of the various therapeutic measures instituted were disappointing. Other than slight variations in the consistency of the edema, no remarkable changes were noted. At times there has been a slight edema of the submental region. The child's condition has remained practically unchanged.

REVIEW OF THE LITERATURE

A review of the literature covering a period of thirty years emphasizes clearly the rarity of this condition; and if one were to eliminate certain case reports that are not distinctly of this type, the rate of occurrence would indeed be low.

Just what etiologic factors are responsible is difficult to state. No positive opinions can be gleaned from the literature, although many theories have been advanced and certain conclusions drawn from clinical and pathologic evidence. Many of the textbooks on pathology and pediatrics make no mention of this form of edema. Others offer meager descriptions. We have been unable to find any exhaustive study of the subject.

Von Reuss[1] states that some forms are probably caused by the congestion that follows intrauterine constriction by amniotic bands, and in these cases transverse furrows mark off the elephantiac portions from the healthy parts. In other cases there appears to be a simple hyperplasia of the connective tissue due to some morbid predisposition of inherent tissue defect. This view is further strengthened by the occurrence of elephantiasis in families and by its association with other malformations in the same infant. According to Ballantyne,[2] the term congenital elephantiasis has been widely and loosely applied to all hypertrophic or hyperplastic states of subcutaneous tissues that may be present at birth. Included also are the soft and cystic varieties and the localized hard and soft types (congenital elephantiasis dura and mollis). He quotes Esmarch as mentioning three forms, the telangiectatic, the fibromatous and elephantiasis neuromatodes, but confines himself to the hypertrophic thickening of the subcutaneous tissue of one or more limbs or parts of the body which is found at birth. These, he states, are more nearly related to the instances of cystic elephantiasis. Vessels, nerves, bones, muscles, and fibrous tissue may also be involved. In the restricted sense, however, the condition is hyperplasia of the subcutaneous tissue, with special involvement of the lymphatics.

Most of the case reports are found in the German literature. Drey[3] cites the case of a boy in whom the thickness of the skin on the legs had been noted immediately after birth. There was a moderately hard thickening of the waxy, shining skin and subcutaneous cellular tissue of the backs of both feet, and of the anterior and posterior sides of the lower limbs. The bones of the feet and lower legs were well proportioned and of normal size. Koch[4] reports a case in a boy of 2½ years, with marked enlargement of the right lower extremity. The skin was smooth; the outlines of the veins were very distinct, and the veins themselves widely ramified. The soft parts were of a doughy consistency. The limb had increased in size since birth. Simmonds'[5] case was in a still-born, male infant with a tense, edematous swelling of the skin of the entire body, with diffuse lymphangiectases. There was a cystic tumor at the nape of the neck. The tissue was rich in collagenous substance, poor in elastin, and penetrated at several points by ramified cells, which lent to the stroma a myxomatous aspect. He diagnosed the condition as congenital elephantiasis mollis.

1. Von Reuss: Diseases of the New-Born, New York, William Wood & Co., 1921.
2. Ballantyne, J. W.: Manual of Antenatal Pathology and Hygiene, New York, William Wood & Co. **1**: 300.
3. Drey, J.: Elephantiasis congenita, Mitt. a. d. Gesellsch. f. inn. Med. u. Kinderh. **7**: 90-92, 1908.
4. Koch, H.: Écho méd. du nord. **13**: 295, 1909.
5. Simmonds: München med. Wchnschr. **53**: 2176, 1906.

Jenckel [6] cites a case of the angiocavernous type in a girl, aged 4 weeks. The left lower extremity was involved and was approximately three times as great as the sound, right limb. The tissue of the affected part was soft and spongy, and the skin a bluish red.

Bize and Grisel [7] reported a very interesting case. Their patient was a male infant with enormous hypertrophy of the left foot, the toes being scarcely visible on account of their being engulfed by the tumor. There

Fig. 2.—Appearance of patient at 16 months: edema of left leg and right arm and hand.

was a deep, circular groove at the ankle. The toes were embedded in the plantar surface of the tumor, and a short distance behind them was an area in which the skin was almost normal, and which corresponded to the heel. The skin over the tumor was glistening, rose colored, transparent, waxy and edematous. The growth was progressive, and at the end of two months was removed. Examination of the specimen showed that all the component parts of the foot were present and normal. The lesions were limited to the superficial structures and were due to the intimate adherence of the derma to the aponeurosis of the leg at the base of the groove, causing a lymphatic stasis.

Carter's [8] patient showed an edematous right arm at birth, and at 3 months a growth over each pectoral and scapula region, which steadily advanced. Pemberton's [9] patient showed the characteristic edema, but there were no signs of vascular telangiectases of the skin. In contrast, the case reported by Miller and Nelson [10] presented marked swelling of the right thigh, leg and scrotum (noted first at the age of 2 weeks) with marked dilatation of the veins. The swelling was soft and elastic. The vascular masses became intensely engorged on standing.

Dent's [11] case was of the angiocavernous type. Jopson [12] reported two cases occurring in brothers. The father had had the same affection in childhood. Fromme's [13] case is similar in many respects to ours. His patient, a new-born child, had an excess of skin tissue noted especially at the nape of the neck, where the skin could be raised in the same manner as in young dogs. There was marked edema of the hands and feet as well as the soles and the palmar surfaces. The edema extended to both legs. The swelling was puffy, and later became of a doughy consistency with pitting on pressure. He considered for diagnosis an edematous form of sclerema, but decided in favor of a lymphangiectatic edema.

COMMENT

The cases just cited, and others scattered throughout the literature, show a variety of conditions more or less similar and covered by the diagnosis of congenital elephantiasis. Many of these would appear to be much better placed as true neoplasms or as examples of gigantism.

True cases of congenital lymphangiectatic edema, it would seem, are of rather rare occurrence. The case that we have reported is, we believe, one typical of this fortunately rare condition. In considering the etiology, we venture the opinion that this disease is due to a congenital anomaly of the lymphatic system. There is no evidence or reason to invoke any hypothesis such as placental disease, amniotic bands or infections.

Fig. 3.—Appearance of patient at 7 months: edema of right arm, hand and fingers, and left leg.

SUMMARY

1. Congenital lymphangiectatic edema, as in the case reported here, has resisted all forms of treatment tried, and has shown no tendency toward improvement.

6. Jenckel: Elephantiasis congenita angio-cavernosa, Deutsch. med. Wchnschr. **32**: 402, 1906.
7. Bize and Grisel: De l'elephantiasis congénitale, Rev. d'orthop. **5**: 459-471, 1904.
8. Carter, J. C.: Congenital Elephantiasis, Texas State J. M. **4**: 159, 1908-1909.
9. Pemberton, Ralph: Congenital Elephantiasis, Ann. Gynec. & Pediat. **17**: 100-102, 1904.
10. Miller, M. K., and Nelson, K. M.: Elephantiasis Congenita Angiomatosa (Unna) Associated with Changes in the Capillaries, Am. J. Dis. Child. **20**: 127 (Aug.) 1920.
11. Dent, C. T.: Congenital Elephantiasis of the Arm, Proc. Roy. Soc. Med., Sect. Stud. Dis. Child. **4**: 24, 1910-1911.
12. Jopson, J. H.: Arch. Pediat. **15**: 173, 1898.
13. Fromme: Ueber Oedema lymphangiectaticum beim Neugeborenen, Arch. f. Kinderh. **41**: 357, 1905.

2. A definite etiology has not been established, but the evidence presumes a congenital defect in the lymphatic system.

3. This is a rare form of edema, and is to be differentiated from cases listed under the term congenital elephantiasis.

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LOCALIZED GANGRENE FOLLOWING THE HYPODERMIC ADMINISTRATION OF CALCIUM CHLORID *

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Symptoms of obstructive jaundice invariably create a serious problem for the surgeon, if an operation is to be performed to relieve either the jaundice or some other intercurrent symptom. The physical resistance of this group of patients is lowered; but this, in itself, does not constitute the major surgical problem. Hemorrhage, frequently not responsive to any type of treatment, and ending in death, is the factor that renders surgical judgment difficult in every instance of obstructive jaundice. In the present state of our knowledge, it is not easy to say with positive assurance what agency is directly responsible for this tendency to bleed. As surgeons we have become accustomed to associate a prolonged clotting time with *obstructive* jaundice; however, we are not warranted even in taking this seemingly well established position. We would be on safer ground if we regarded every jaundiced patient as a prospective bleeder, whether the jaundice be of the obstructive variety or not. Even the more or less innocent jaundice of the new-born (icterus neonatorum) constitutes a surgical pitfall. The orthodox ritual circumcisers are taught never to do a circumcision on a "yellow baby," even if the operation has to be postponed beyond the prescribed ritual period.

Fig. 1.—Gangrenous sloughs at site of calcium chlorid injection.

The administration of calcium chlorid represents about the only new line of attack against postoperative bleeding in jaundiced patients that has developed during the last decade. This drug is now in general use as a prophylactic against hemorrhage complicating obstructive jaundice.

In 1915, Lee and Vincent [1] published their study of calcium in relation to the arrest of hemorrhage. They state that the slow blood coagulation in obstructive jaundice is due to a lack of available calcium in the blood, and they recommend that this deficiency be counteracted by the administration of calcium lactate by mouth. They frankly state that other workers have demonstrated an increase instead of a decrease of calcium in the blood in obstructive jaundice, and also that the oral administration of calcium is not generally considered to have any effect on coagulation time. They meet this last objection by saying that to secure a demonstrable effect from oral administration, at least 100 grains (6.5 gm.) of calcium lactate must be given daily, and that it must be administered over a period of several days before any effect on clotting time can be noted. In those instances in which an immediate effect is desired, they advise the intravenous injection of calcium, which, they say, "seems to have no bad effects." Sollmann [2] doubts the value of calcium when administered to check hemorrhage. After pointing out that calcium is, of course, a necessary factor in the process of coagulation, he qualifies with the statements that:

1. The normal content of calcium in the blood is more than is required for coagulation.
2. Further increase of calcium does not increase coagulability.
3. The addition of calcium to hemophilic blood, in vitro, delays rather than hastens coagulation.
4. It has not been shown that calcium is deficient in any of these conditions.
5. Estimations of coagulation time, after the administration of calcium chlorid, have given contradictory results, due partly to differences of technic and partly to the time when the observations were made.

Sollmann admits finally, however, that the intravenous administration of calcium chlorid is permissible on the basis that it can do no harm.

Walters [3] popularized the use of calcium in his paper on the preoperative preparation of patients with obstructive jaundice. From his study of the literature, from clinical observations and from experiments on animals, Walters came to the conclusion that three intravenous injections of 5 c.c. of a 10 per cent. solution of calcium chlorid should be administered to jaundiced patients before operating on them. He advises that one injection be given daily for three days, immediately preceding operation. He reports most excellent results and states that neither clinically nor experimentally is it possible to determine any deleterious effects from the administration of the drug in the dosage recommended by him. He [4] does caution that the solution be injected slowly, and he also calls attention to the work of Cushny, who showed that in large doses calcium is poisonous, tending to bring the heart to a standstill.

On the basis of the work of Walters, and just after his first paper was published, I began the use of calcium chlorid as a part of the preoperative preparation in all cases of obstructive jaundice. As far as could be determined, the drug accomplished all that Walters claimed for it. The resident surgeon of the hospital, Dr. Wilhelmj, began using the calcium chlorid therapy for lowering the clotting time in conditions other than

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1. Lee, R. I., and Vincent, Beth: Relation of Calcium to the Delayed Coagulation of Blood in Obstructive Jaundice, Arch. Int. Med. **16**: 59 (July) 1915.

2. Sollmann, Torald: Manual of Pharmacology, 1922, p. 802.

3. Walters, Waltman: Preoperative Preparation of Patients with Obstructive Jaundice, Surg., Gynec. & Obst. **33**: 625 (Dec.) 1921.

4. In a later paper (Walters, Waltman; and Bowler, J. P.: Surg., Gynec. & Obst. **39**: 200 [Aug.] 1924), Walters discusses at length the toxicity of calcium chlorid and concludes that toxic effects do not follow the injection of therapeutic doses

obstructive jaundice, and reported most gratifying results. After we had been using the drug for about a year and a half, I was asked to see a 17 year old girl, a patient in the nose and throat service, on whom a tonsillectomy had been performed a week previously. As she was known to have a very long clotting time, she had received three intravenous injections of 10 per cent. calcium chlorid before operation. After the administration of the last injection her clotting time, which had been eleven minutes, was lowered to one and one-half minutes. After the third injection, she complained of discomfort at the site of injection. This was followed by redness, swelling and the other signs of cellulitis, and finally ended in two ugly looking gangrenous sloughs that required about eight weeks to heal. Inquiry failed to disclose that there had been any particular technical difficulty in making the intravenous injections, although the intern believed it quite possible that some of the solution may have been injected into the subcutaneous tissue when the third dose was administered (Fig. 1).

Here, then, was a most unpleasant consequence of the intravenous injection of calcium chlorid, despite the fact that Lee, Vincent, Walters and Sollmann specifically state that the use of the drug is unattended by

Fig. 2.—Necrosis resulting from subcutaneous injection of 0.05 c.c. of 5 per cent. calcium chlorid.

harm. It became necessary, therefore, to inquire into the occurrence of similar accidents, as reported in the literature, and to determine whether there were not some way of avoiding them.

In 1896, Sir Almroth Wright [5] studied the influence of calcium salts on hemorrhage. In the body of his paper, he warns against the serious consequences resulting from the hypodermic injection of calcium chlorid, and reports instances of "extensive sloughing" both in experimental animals and in human patients. In a paper written nearly ten years later, he again warns against the sloughing that results from calcium chlorid when administered under the skin, and states that if calcium lactate is used, the maximum strength should be 5 per cent. In 1911, Leo [6] reported that the subcutaneous injection of calcium chlorid and calcium lactate solutions of from 2.5 to 5 per cent. strength was followed by sloughing and gangrene. Leo also emphasizes the cardiac depression action of calcium salts. He reports that by injecting 5 c.c. of a 2.5 per cent. solution rapidly into the ear veins of a guinea-pig, he could cause instant death, but that if the same amount was administered slowly, it did not influence heart action.

It is clearly evident from these reports that calcium chlorid cannot be administered intravenously in 5 per cent. solution with absolute safety. Whether or not the weaker solutions were safe remained an open question, which we attempted to answer by studying the effect of various dilutions of the drug when injected subcutaneously into guinea-pigs. For this purpose, a series of four guinea-pigs was used. Under aseptic precautions, 1 c.c. each of 1, 2, 3 and 5 per cent. solution of calcium chlorid was injected under the skin of the abdomen, at sites far removed from one another. In every instance the 5 per cent. solution caused sloughing and gangrene; the 3 per cent. solution, likewise, invariably caused gangrene, but of a less fulminant type than that which followed the use of the 5 per cent. solution; the 2 per cent. solution caused a marked induration, with an inflammatory reaction that in only one instance ended in actual necrosis; the 1 per cent. solution caused no inflammatory reaction, aside from a mild induration. Figure 2 shows the lesion following the injection of 5 per cent. solution of calcium chlorid.

These experiments do not demonstrate that calcium chlorid in 5 per cent. strength is harmful when injected into a vein. Nor do they in any way controvert the statements of Walters, Sollmann, Lee and Vincent regarding the harmlessness of the intravenous administration of soluble calcium salts. But in view of the ever present possibility of subcutaneous leakage during intravenous administration, it would seem to be wise always to regard hypertonic calcium solution as a potential factor in the causation of localized gangrene.

The intravenous administration of calcium is recommended in order to add available calcium to the blood. Whether a definite quantity of calcium is administered in a weak or strong solution seems to make no difference as far as the availability of the calcium is concerned. Since a 1 per cent. solution does not produce necrosis when placed in the subcutaneous tissues, and since subcutaneous instillation is likely to occur accidentally, even with the practice of the most careful technic, it has seemed to us wise to administer 50 c.c. of a 1 per cent. solution from a gravity flask, rather than 5 c.c. of 10 per cent. solution from a syringe. An added advantage of this method lies in the fact that the administration is necessarily slower than by the syringe method, thus protecting against possible cardiac depression.

CONCLUSIONS

1. Calcium chlorid, administered intravenously, in strengths above 1 per cent., is not an innocuous drug.

2. Solutions of 2 per cent. and over show a marked tendency to cause necrosis and gangrene when brought into contact with subcutaneous tissue. When solutions of such strength are used for intravenous administration, necrosis and gangrene constitute a very real menace, because of the danger of some of the solution escaping into perivenous tissues.

3. The poisonous effect of calcium chlorid (marked cardiac depression) may be discounted in a large measure because the dosage commonly used is not large enough to cause toxic symptoms, particularly if the solution is administered slowly.

4. The administration of a 1 per cent. solution (50 c.c. administered slowly) seems to be a very certain protective against all undesirable effects.

Missouri Theater Building.

5. Wright, A. E.: On the Treatment of Hemorrhages, Lancet **1**: 153, 1896; ibid. **2**: 1096, 1895.
6. Leo, H.: Deutsch. med. Wchnschr. **16**: 5, 1911.

Physical Examinations.—More thorough physical examinations are being made in cities than in large villages and rural communities. This probably accounts for the larger ratio of physical defects found among urban children. Physical examinations are being better made each year.—Howe, W. A.: *Am. J. Pub. Health* **15**:306 (April) 1925.

Clinical Notes, Suggestions, and New Instruments

HISTOPATHOLOGY OF AGRANULOCYTIC ANGINA *

EUGENE C. PIETTE, M.D., OAK PARK, ILL.

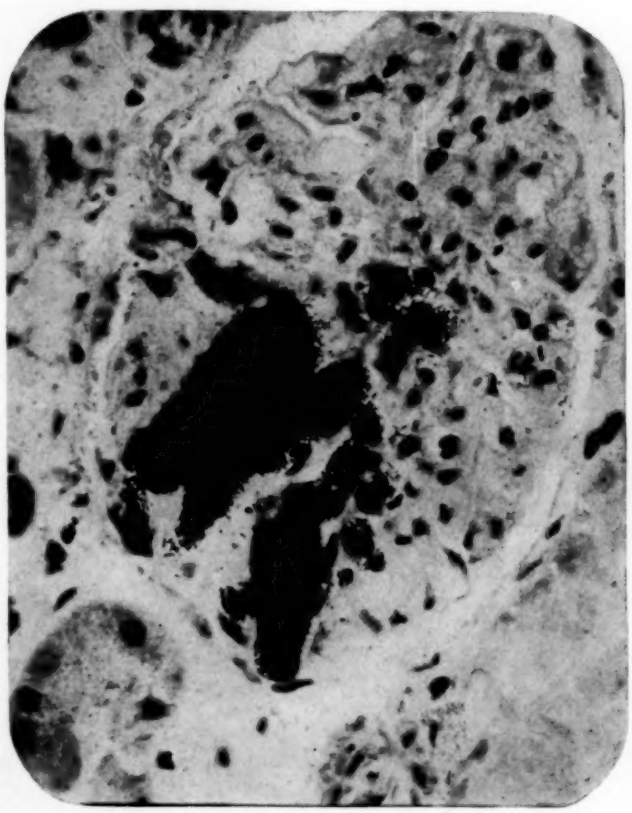
Microscopic slides from a case of this rare disease promise interesting and unusual findings, in addition to suggesting the possible answers to several difficult questions. What are the inflammatory changes when the army of defense, the polymorphonuclears, is completely destroyed? What is the significance of the clinical symptoms? Where are the primary lesions located, and what is the cause of this disease?

As was pointed out in the clinical report of this case by Dr. J. H. Skiles,[1] only the abdominal cavity was examined. The necropsy was performed ten hours after death. I fixed the tissues in Bouin's fluid and made paraffin sections from the liver, spleen, kidneys, stomach, ovary and suprarenal glands. Hematoxylin-eosin, Gram-Weigert's, Gram's (original) methylene blue and Wright's stains were used.

The liver showed no marked changes, its general structure being well preserved. In some places, diffuse perivascular lymphocytic infiltration was present, while the capillaries and lymphatics were somewhat distended. In some capillaries, bacterial emboli or single bacteria were present, but about these no marked changes of the liver cells were visible. The amount of intracellular bile pigment was rather diminished. Blood pigment was found in some of the Kupffer cells; in others, mitoses were present, while still others contained a few bacteria. In Glisson's capsule and in a thin sheet of overlying inflammatory exudate, numerous bacilli were present.

The structure of the spleen was markedly changed. There was an enormous development of the sinus endothelium (irritation of the reticulo-endothelial system) at the expense of the lymphatic tissue. The endothelial cells comprised about 90 per cent. of the entire splenic substance. In most places the sinuses appeared to be empty, or contained only a few red blood cells. In some places within the sinuses, a bluish, finely granular mass was present, which, when stained by Gram's method, proved to be mycotic emboli. In some sinuses, a few lymphocytes or a plasma cell could be found; but not a single polymorphonuclear leukocyte was to be seen either in the spleen or in any other organ. The cytoplasma of the sinus endothelium was greatly developed, and many mitoses were present. There was practically no pigment or other inclusions in these endothelial cells. The white pulp consisted of reticular cells, small lymphocytes and scattered plasma cells. Some reticular cells were increased in size, containing one or two nuclei of irregular shape, resembling giant cells. Also some megacaryocytes were present. As in the liver, numerous bacilli were present in the capsule of the spleen and in the superficial layer of the inflammatory exudate. Neither in the liver nor in the spleen could any traces of the method of elimination of the destroyed polymorphonuclears be found.

The most pronounced changes were in the kidney. Innumerable bacterial emboli were distributed all over the cortex, and could be identified here and there in the medullary substance. These were perhaps particularly abundant in the region of the vas afferens, efferens and in the glomeruli and, what is quite unusual, no evidence of inflammatory change could be found; it seems that lymphocytes do not play any rôle in this type of sepsis. Numerous bacilli were found between the cells of tortuous canaliculi, in their lumina and occasionally in Bowman's capsules. This suggests the possibility of the elimination of bacteria through the excretory system of the kidneys. Marked degenerative changes were present in the kidney parenchyma. In some places the epithelial cells lining the tortuous canaliculi were necrotic, their nuclei being poorly stained, while many cells were desquamated. In the lumina of the renal tubules, numerous hyaline casts were found.



Bacterial emboli in a kidney glomerulus.

In the stomach, a number of superficial foci of necrosis penetrated in places as deep as the muscularis mucosae. Here a thin zone of inflammatory lymphocytic infiltration was seen about these necrotic spots. On the gram-stained sections, a very interesting picture was presented. The outermost sheet of the necrotic focus consisted chiefly of gram-positive staphylococci and streptococci, while the middle layer contained exclusively gram-negative bacilli quite similar to those found in the other organs. Evidently these ulcerations were due to bacterial emboli that had occluded the corresponding vessels, and, as a result of these necrotic changes, conditions were made favorable for a mixed infection to appear.

Bacterial emboli in the suprarenal gland were numerous in the capillaries of the cortical substance, evoking, however, no inflammatory reaction. A slight diffuse lymphocytic infiltration was seen in addition to scattered foci of cellular infiltration. Only a few emboli were in the ovary.

In spite of the quite unusual abundance of bacilli in the blood stream I, like previous investigators, was unable to obtain a positive blood culture and thus identify the causal organism, culturally. Evidently these bacilli require a special medium. Morphologically, they are gram-negative (in paraffin sections), with rounded edges from 2 to 4 microns long, and about 1 micron thick. If they belong to the *B. pyocyaneus* species, they must possess some peculiarities in their biologic properties.

As far as the unfortunately incomplete microscopic examination permits me to form an opinion, the following is suggested as the possible pathogenesis: Although the lesions in the mouth cavity and in the vagina were not examined histologically, we may suppose that they were of the same structure and clinical significance as the ulcerations in the stomach that were described. They were due to bacterial emboli and were but secondary lesions as a consequence of

* From the West Suburban Hospital.

1. Skiles, J. H.: Agranulocytic Angina, J. A. M. A. **84**: 364 (Jan. 31) 1925.

the septicopyemia. Bacilli enter the human organism by some unknown route, rapidly destroying all the polymorphonuclear leukocytes; then they multiply and give rise to numerous embolisms throughout the body, meeting with no opposition or reaction. On some of the mucous surfaces (gastro-intestinal tract, vagina) superficial ulcerations appear. Only the reticulo-endothelial system of the spleen and to a lesser degree of the liver, which show progressive changes, makes any attempt to combat the invader. The lymphocytes which are immune to the destructive virus are entirely unable to defend the body. Some elimination of the bacilli occurs through the kidneys, where the bacilli are most abundant and where they are found in large numbers within the excretory ducts.

The possibility is suggested that, with further study and observation, the noxious agent responsible for the destruction of the leukocytes (*B. pyocyaneus?*) may be utilized therapeutically in leukemic conditions and tumors of the myeloid type.

NEW LIVER-GRASPING FORCEPS

EMANUEL FRIEND, M.D., CHICAGO

Most surgeons who have had much experience in operative work in the right upper quadrant of the abdomen fully realize the difficulty one finds in visualizing the bile tracts, unless proper traction is made on the liver, especially in high lying livers.

Fig. 1.—New liver-grasping forceps.

Fig. 2.—Forceps in use.

With this idea in mind, I have devised an instrument 9½ inches (24.15 cm.) in length, with fenestrated oval grasping jaws 4.5 by 3 cm. in diameter, open on one end to permit soft rubber tubing to be slipped over the entire grasping portion, which may be renewed whenever it is desirable. A long ratchet catch is provided, permitting of soft bodies (livers), large or small, being grasped and the forceps locked, without undue pressure on account of forcing the instrument to be locked.

In my hands this instrument has proved of inestimable value in surgery of the bile tract. With it, the liver can be grasped and a good hold maintained without injury to the organ; and, at the same time, it allows a clear operative field by doing away with the hands of the assistant holding the liver.

5 North Wabash Avenue.

A CASE OF BULLET IN THE HEART*

J. W. STECKBAUER, M.D., ST. LOUIS
Resident Surgeon, St. Louis City Hospital

A number of case reports, particularly in the literature of military surgery, record the presence of foreign bodies in the cavity and musculature of the heart. The present report is made solely to place on record an unusual case of this condition in which the bullet traversed the abdominal cavity from the buttock to its lodgment in the heart muscle. The heart injury was always secondary in importance to numerous lesions of the abdominal viscera.

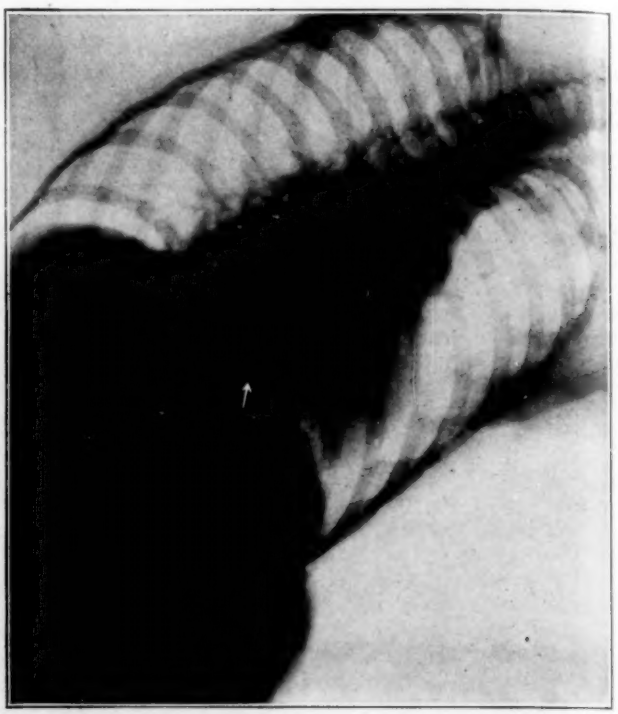


Fig. 1.—Anteroposterior view, nine months after injury, with the trunk strongly flexed to the left; this position under the fluoroscope best demonstrated the position of the bullet in the heart muscle, moving with the heart beat.

Fig. 2.—Lateral view, nine months after injury; in this position the bullet is obscured by the dome of the diaphragm, and appears to be beneath it.

* From the Washington University Unit, St. Louis City Hospital.

REPORT OF CASE

A fairly well developed and nourished boy, aged 14 years, was brought to the emergency room of the St. Louis City Hospital, Dec. 2, 1923, having been shot in the buttock by a boy companion about two hours before, while he stooped over to pick something off the ground. The bullet entered the left gluteal region midway on a line drawn from the anterior superior spine to the tuberosity of the ischium.

Physical examination was negative except for abdominal tenderness in the left lower quadrant, with slight rigidity. By sudden release of pressure, pain was elicited. No signs of fluid and no masses were found. The reflexes were all normal. Examination of the chest showed no enlargement of the heart dulness and no changes in the heart sounds. The blood pressure was 120 systolic and 60 diastolic. The white blood cells numbered 7,850. Fluoroscopic examination showed numerous small particles of lead both laterad and mediad to the ilium. The bullet was found in the midline at the level of the tenth thoracic vertebra. It moved synchronously with the heart beat. It was obvious that the bullet was located either in the heart muscle or between the heart and the diaphragm.

Laparotomy was performed at once. A left rectus incision 5 inches long was made, and bloody fluid was found in the peritoneal cavity. The following perforations of the viscera were discovered: one in the transverse colon, one in the sigmoid, one in the descending colon, one in the posterior wall of the stomach, and seven in the small intestine. None of these were so large as to prevent simple purse-string closure with catgut. No vascular injury in the abdomen was found. A rubber drain was inserted in the pelvis, and one in the region of the sigmoid. The abdomen was closed in layers with catgut and mass sutures of silkworm-gut.

After a stormy postoperative course, requiring a blood transfusion, the patient gradually improved. Three days after operation, there developed an extensive wound infection with necrosis of the deep fascia, which slowly sloughed off, exposing the small intestines. The wound was dressed with petrolatum gauze, and granulated promptly. Reverdin grafts, which took very well, were placed, Jan. 15, 1924, as it was felt to be unwise to attempt operative treatment of the extensive hernia then present through a granulating wound. The patient was discharged, March 2, with instructions to return for repair of the hernia.

The patient was seen nine months after injury, but refused to enter the hospital for treatment of the hernia. At this time, except for a recent Colles' fracture, he was in excellent general condition and was working as a messenger boy. There were no symptoms referable to the heart, and examination of the heart area was entirely negative. There were no murmurs and no systolic intercostal retraction. Fluoroscopic examination by Dr. Lex McCutcheon at this time revealed an opaque body, probably a bullet from a 0.22 caliber rifle, seen about 1 inch to the left of the midline and moving synchronously with the heart. It was located definitely above the diaphragm. The bullet was evidently in the heart muscle.

Vaccination by Mouth Against Dysentery.—Experiments with rabbits show that the greatest protection (70 per cent.) was afforded by the subcutaneous method, but that a fair degree of protection (57 per cent.) resulted from the vaccination by mouth, and that there was much less danger involved in the use of the latter method. Beef bile is shown not to be necessary in vaccinating by mouth against the Shiga type of bacillary dysentery. While the method of vaccinating by mouth against the Shiga type of bacillary dysentery should still be considered in the experimental stage, two facts are evident: 1. The danger and discomfort are too great to recommend the use of the subcutaneous method of vaccination against the Shiga type of infection. 2. Since vaccines can be so prepared that no danger nor discomfort follows their ingestion, and since at least some immunity is shown to follow such procedure, vaccination by mouth is apparently worthy of further trial.—Enlows, E. M. A.: *Pub. Health Rep.* 40:647 (April 3) 1925.

A SIMPLE METHOD OF ELIMINATING DANGER OF EXPLOSION DUE TO STATIC SPARK IN GAS-OXYGEN APPARATUS *

W. B. LEWIS, M.D., AND E. F. BOEHM, R.N., BATTLE CREEK, MICH.

Ethylene has been used at the Battle Creek Sanitarium for nearly all the major and minor surgery since February, 1924, and has proved a most satisfactory anesthetic. We have had no accidents thus far, although the new anesthetic has been used under conditions similar to those in other hospitals until the present apparatus was devised. Luckhardt,[1] Brown,[2] and Davis[3] have in recent articles given conditions under which ethylene might explode, but have not made definite suggestions or recommendations as to the arrangement of the anesthesia apparatus to avoid these accidents. As far as we know, up to the present time the manufacturers of anesthesia apparatus have not equipped their machines with any device that will eliminate the possibility of explosions.

We have made various tests by means of a static machine and the electroscope, and have demonstrated that a simple arrangement that grounds every part of the machine, operating table, patient and anesthetist provides an adequate and satisfactory means of eliminating static spark. This arrangement has now been in use two months.

Using a McKesson model G-100 with ethylene attachment, the following method was used to test the possibility of completely eliminating static spark:

1. A small insulated wire was run from the reducing valve on the tank to the metal part of the mixing chamber. All connections were soldered.
2. A bare copper wire running through the breathing tube made metal connection at each end.
3. A moist cloth cover from the metal of the mask around the rubber face piece established connection with the patient's face.
4. A small brass chain was run from the patient's arm to the metal of the table.
5. An insulated wire was run from the table back to a point on the metal standard of the machine.
6. A heavy moist cloth was extended from the machine to the floor.

As a precaution against a spark from the anesthetist, his metal stool was grounded by a moist cloth to the floor. In one case that has come to our knowledge, in another hospital, a slight explosion occurred when the anesthetist reached to take hold of the mask. As a further prevention of spark from others about the table, a moist bath mat is spread on the floor so that those near the head of the table must stand on it. This establishes much better grounding. The anesthetist, when not sitting, stands on the wet mat.

The gas machine with its rubber tires and most stools used in operating rooms are insulated from the floor. A moist cloth is an ideal conductor and easily grounds these to the floor. We demonstrated that a piece of metal lying on the floor and connected by wire with a small static machine was not a good conductor. It is easily shown by a small electroscope that a moist cloth completely grounds, whereas with the metal loosely in contact with the floor a slight static charge is built up.

By means of the electroscope it can be shown that some static charge is produced by friction of the rubber face piece. This possibility was taken care of by a wet cloth, fastened by a purse string to the metal part of the mask, covering the rubber face piece and held in place on the inside of the mask by a metal spring. This is easily changed when necessary.

Our floor, being of tile, is thoroughly grounded. If such were not the case, a ground wire should be led outside and well grounded.

Since our electroscopic readings show that the foregoing arrangement prevents the accumulation of a static charge in any part of the apparatus, we feel that the danger of explosion is eliminated.

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* From the surgical department of the Battle Creek Sanitarium.

1. Luckhardt, A. B.: The Potential Dangers Attendant on Ethylene-Oxygen Anesthesia, J. A. M. A. **82**:1603 (May 17) 1924.
2. Brown, W. E.: Explosibility of Ethylene Mixtures, J. A. M. A. **82**: 1039 (March 29) 1924.
3. Davis, C. H.: Explosibility of Ethylene, J. A. M. A. **82**: 1607 (May 17) 1924.

TOXICITY OF THE CASTOR BEAN *

F. L. FOLLWEILER, M.S., AND D. E. HALEY, PH.D.,
STATE COLLEGE, PA.

Certain cases of sensitiveness to the poisonous action of the castor bean have been reported by Arnold,[1] Bernton,[2] Robbins[3] and Snell.[4] A number of such cases developed in connection with experimental and research work involving the use of the castor bean and its products in the Department of Agricultural and Biological Chemistry of the Pennsylvania State College. Much work has been done in this department with the castor bean, particularly with the ricinus lipase.

REPORT OF CASES

CASE 1.—Mr. S., an instructor in the department, during the fall of 1922 contracted what appeared to be a severe cold, marked by violent and continuous sneezing and coughing, with irritation and edema of the mucous membranes of the nose, throat, eyes and ears, together with a dull headache and watering of the eyes. The condition seemed to grow worse instead of improving, and he gradually developed congestion of the bronchi, with painful and oppressive breathing, accompanied by a wheezing sensation and expectoration of mucus. Swelling and stiffening of various joints, particularly those of the arms and legs, developed, accompanied by pains similar to those experienced in grip, nocturnal paroxysms of suffocation accompanied by labored breathing, cold perspiration, vomiting, violent aching of the jaws and teeth, which necessitated the removal of several of the latter, marked intestinal pains, and alternate diarrhea and constipation, together with some fever. Throughout this entire period there was a gradual loss in weight marked by extreme prostration.

Mr. S. noted that his condition was improved on entering the open air, and during the period from Saturday noon until Monday morning, when he remained away from the laboratory. On entering the laboratory, however, there seemed to be an increase in the severity of his symptoms. One day, while he was conducting a class in laboratory work, a student began sifting some castor bean lipase preparation, and Mr. S. immediately became so affected that it was almost impossible for him to breathe. He at once suspected that he was sensitive to the castor bean. Later, during a period when the castor bean problem was not being worked on and the laboratory was thoroughly cleaned, a rapid improvement in his health ensued, and after several months the symptoms entirely disappeared.

CASE 2.—Dr. A., in company with several students, spent an afternoon cleaning up the small laboratory in which the castor bean lipase preparation had been sifted. Considerable dust was raised during the process of cleaning, and after the task was completed several of the students engaged in the operation experienced marked irritation of the mucous membranes of the nose, throat and eyes, this condition being accompanied by violent sneezing, coughing and burning sensations. The following morning Dr. A. was taken violently ill, complaining of intense abdominal pains or cramps and cold sweats, extreme vomiting, diarrhea and burning of the stomach, headache accompanied by severe prostration, bone pains with considerable stiffness of the joints, sneezing and coughing with irritation of the mucous membranes, and more or less fever. These symptoms extended over a period of several days, after which they gradually and completely disappeared.

CASE 3.—Mr. F., a medical student, became interested in the study of the castor bean lipase. He spent several days preparing the ricinus lipase from the castor beans, by hulling and macerating them, extracting the fat by the use of ether, and finally drying, pulverizing and sifting the finished product. After a time he experienced a dull headache, later accompanied by occasional sneezing and coughing, with a peculiar dry burning sensation in the nose and throat, and a slight itching of the skin at points at which the castor bean material had been brought in contact with his hands and arms. These symptoms gradually became more severe, the coughing and sneezing becoming extremely violent and continuous, while the irritation and edema of the mucous membranes of the nose, throat, ears and eyes increased very rapidly. His condition gradually became worse. A congested condition of the bronchi developed, accompanied by a hard, suffocating, continuous cough, hoarseness, raw feeling in the throat, pains in the chest, and nocturnal paroxysms of suffocation occurring usually about 2 a. m., with difficult breathing and cold perspiration. The symptoms were accompanied by severe attacks of abdominal pains, alternate diarrhea and constipation, violent inflammation and aching of the teeth and jaws, bone pains, stiffness and soreness of the joints, severe headache and extreme prostration. It was noticed that there was improvement in his condition when he was in the open air and when away from the laboratory, this improvement being followed by an intense aggravation of the symptoms when he again returned to work in the laboratory.

Finally the symptoms became so violent that the attending physician deemed it necessary to order immediate withdrawal from the laboratory and advised abandoning the research problem. Within a short time after this had been done, a marked improvement was noted in the patient's condition, followed by a gradual disappearance of his symptoms in less than a week, with the exception of the congested condition of the bronchi, which required from five to six weeks for complete disappearance.

* Contribution No. 13 from the Department of Agricultural and Biological Chemistry of the Pennsylvania State College.

1. Arnold: Science **59**: 577 (June 28) 1924.
2. Bernton, H.: Am. J. M. Sc. **165**: 196 (Feb.) 1923.
3. Robbins, W. J.: Science **58**: 305 (Oct. 19) 1923.
4. Snell, W. H.: Science **59**: 300 (March 28) 1924.

CHEESE TID-BIT URTICARIA

M. N. FRANK, M.D., DETROIT

During the last two months I have come across three cases of urticaria due without doubt to cheese tid-bit (a National Biscuit Company product).

ETIOLOGY

The etiologic factor, though still unknown, is some toxic substance present in the food before preparation, cooking, formed during the process of the preparation (as is possible in this food known as cheese tid-bit) or possibly formed in the intestinal tract by the secretion acting on the food ingested. In these cases, the evidence so far available points to the cheese as either the harmful factor or its precursor.

SYMPTOMS

In all these cases, without varying an iota, the symptoms were alike. The onset was within eighteen hours after ingestion of the cheese tid-bit. Headache was the first symptom, followed by a slight nausea and then a gradual itching of the skin of the face. Within from five to ten minutes, the eyes were almost closed. The face became so edematous that the persons were beyond recognition. Then the neck swelled, and the upper extremities, chest, abdomen and lower extremities followed in the order mentioned. The wheals began as an erythema, which soon, while under direct observation, coalesced and became edematous simultaneously. I was fortunate to see one of the patients during this development. After the entire body was edematous, the patient assumed a nervous attitude, as a result not alone of the intense itching, but also of the oncoming vomiting. After vomiting, the itching was relieved partially. The patient felt slightly better. All three patients complained of a thickening sensation of the tongue. The mucous membrane of the entire oral cavity was highly congested.

DIAGNOSIS

It is difficult to guess what is the exciting factor in urticaria. In the first case, I had put the youngster on a water, orangeade, lemonade and toast diet, for he had had the edema for five days before I was called in to see him. In two days the edema had disappeared. The patient soon began to feel hungry, and in spite of my orders that nothing be given him, was given a few of the cheese tid-bit by his sister. The following day the entire picture had repeated itself. I could not learn what the child had eaten, for he

was too frightened to tell us he had had anything. Soon after this attack, which subsided in two more days, I did protein sensitization tests to determine the cause. The only food substance that gave a positive reaction was cheese. I informed the mother, who had gradually gained the confidence of the boy. She learned from him that he had had cheese tid-bit, and told me that he had eaten some the day before the second attack.

TREATMENT

Eliminative treatment should be instituted at once. Enemas containing sodium bicarbonate, saline cathartics (choice depending on the taste of the patient) and plenty of water was given; nothing was given except lemonade, orangeade, water and toast until the causative agent could be determined. Then the diet was gradually increased. Phenol (carbolic acid) or menthol in liquid petrolatum to allay the itching makes the patient feel most grateful. The vomiting is quieted by 30 grains (2 gm.) of sodium bicarbonate, repeated every half hour for four doses. Acetylsalicylic acid, 5 grains (0.3 gm.), relieves the headache, and I have not found it necessary to repeat the dose.

COMMENT

In questioning the mothers and the patients, I could not get a history of eczema or urticaria previous to these attacks. They had all partaken freely of milk and cheese without the slightest discomfort previously. Since this urticarial attack, one of them has been unable to partake of cheese, for an itching appears within a few hours. In trying to determine the toxic substance, I have written the National Biscuit Company for the constituents of the cheese tid-bit and have received this following reply:

"In the manufacture of cheese tid-bit, we use about one third of the amount of cheese that we do of flour, and the other ingredients, such as salt, soda and yeast, are practically negligible in proportion to the quantity of dough."

Is it possible, then, that the fungi (yeast in this case) are responsible for the transformation, generating a toxic substance of unknown chemical composition? Our organic chemists might be able to help us. For before eating cheese tid-bit, the three patients were not subject to cheese intoxication. On eating cheese tid-bit (a cheese preparation acted on by a yeast), these patients acquired urticaria and are subject to it now.

Is it, then, possible that some of our other sensitizations are caused in a like manner, not alone by fungi, but also by bacteria and the like?

Is this so-called putrefaction, fermentation or histamin-like substance formed in the body or outside the body or both? I feel that these questions will be answered in the near future.

REPORT OF CASES

CASE 1.—S. G., a boy, aged 11 years, had itching urticaria for five days previous to my seeing him. All treatment had been without results. The history was vague except for the symptoms described above. The onset was sudden. Physical examination disclosed marked edema of the entire body; the mouth was edematous. I instituted treatment. The patient recovered in two days. He then ate cheese tid-bit, and suffered a relapse for two days.

CASE 2.—Mrs. F. W., aged 23, white, had a sudden illness one hour previous to my seeing her, characterized by severe itching, headache, edema, and vomiting. Cheese tid-bit had been ingested the day before. The treatment was instituted, and the patient was well in two days. I lost track of this patient, although I had wanted to make further observations.

CASE 3.—R. S., a boy, aged 17 years, had headache and slight nausea. On entering his room, I saw the patient scratching vehemently and observed the beginning of the urticaria as described above. Vomiting soon relieved him slightly. He was given the treatment outlined, and recovered in two days. He had ingested cheese tid-bit the day before.

Protein sensitization tests were done in all these cases, with cheese giving a positive reaction.

5533 Woodward Avenue.

Special Article

THE ART AND PRACTICE OF MEDICAL WRITING

VIII. ILLUSTRATIONS *

GEORGE H. SIMMONS, M.D.
Editor and General Manager Emeritus, American Medical Association
AND
MORRIS FISHBEIN, M.D.
Editor, The Journal of the American Medical Association
CHICAGO

(Continued from page 1338)

Editors of medical periodicals naturally are inclined to include all the illustrations that may be submitted by an author, regardless of whether or not all are necessary to bring out adequately the points made in the text, and regardless, indeed, of whether or not they bring out any point at all. The physician who reads medical periodicals is, or ought to be, familiar with the normal appearances, gross and microscopic, of the various organs; consequently, illustrations of normal conditions should be used only when absolutely required for the sake of contrast. The first rule regarding illustrations, therefore, is that they must illustrate.

HALFTONE ILLUSTRATIONS

The halftone process is used for reproducing photographs either of tissues or of appearances under the roentgen ray; also for the reproduction of charts or drawings with shading. When the photograph is being taken, the camera should be focused on the detail to be shown. It should be borne in mind that the picture probably will have to be reduced for publication purposes, and that the object to be shown should occupy most of the space; hence an unnecessary expanse of background, the physician or nurse responsible for the patient, apparatus that has no direct bearing on the condition to be shown, and similar nonessentials should be eliminated. It is, of course, possible to have all such unnecessary details airbrushed out by the photoengraver; but retouching of this kind is expensive and may result in the loss of portions of the picture that are essential, or in other modifications that are not desirable.

The ideal photograph is a perfect print on paper with a glossy finish. Wash drawings with few or no hard, black lines usually result in good illustrations by the halftone process. On the other hand, pencil drawings rarely reproduce well, and crayon drawings on stipple board yield a granular appearance when reproduced in halftone.

After the photograph is prepared, the author should make certain that the significant points are clearly apparent in the illustration and will come to the attention of the reader. He will call special attention to these points, either by a suitable reference in the legend to appear under the picture, or by lettering placed on the photograph itself. It is inadvisable to write on the back of a photograph, since this may mar its surface. If, however, it is necessary to write on the back for purposes of identification, a soft pencil should be used and but little pressure applied. Letters and numbers placed on the surface of the picture should be neat and sufficiently large to be legible when reduced.

* This is the eighth of a series of articles. When concluded, these papers, together with additional material, will be published in book form.

Printed characters may be secured to be pasted on the illustrations, or the lettering may be done by a competent draftsman. It is usually best to draw a simple dotted line to the margin of the photograph, and to insert the letters horizontally at this point, so that when the illustration is reproduced the letters will be in proper position to be easily read. They should also be so placed as to require as little extra space as possible, since the cost of the reproduction depends on the surface area and on the process necessary in making the plate. It is sometimes desirable, therefore, to place black letters on unessential white areas within the picture, or white letters on black areas, making the dotted lines and the lettering come entirely within the body of the photograph. (Examples of various types of halftones, with legends, will be included in the complete book.)

When illustrations are offered for publication, they should be suitably numbered and sent flat. The author's name may be written with soft pencil on the back of each, or, better still, on a label, which may then be pasted on the back of the illustration, thus avoiding marring its surface.

It is well to indicate in the manuscript the place at which each illustration is preferably to be inserted, although few periodicals will undertake to follow such directions explicitly.

Many persons object to having their portraits published in scientific periodicals. It is necessary, therefore, that the author of a manuscript containing such photographs secure from the patient permission for publication, and that the editor of the periodical to which the article is submitted be informed of the fact that permission has been secured. Moreover, it is desirable to mask the face of the portrait by eliminating certain portions, either blocking them out with India ink or pasting over them pieces of paper of a neutral color. Since photographs are submitted as scientific proof, photographers must be informed that retouching is not to be done on such portraits.

ROENTGENOGRAMS

If a manuscript is to be accompanied with roentgenographic illustrations, these should be submitted in the form of prints from the original negative, made on glossy paper, rather than in the form of the original plate or film. Full-size prints are desirable, since each time an illustration is submitted to a photographic process it loses in detail. If, therefore, the author sends a reduction from the original print and this must be still further reduced for publication, some of the detail is certain to be lost.

In preparing the roentgenogram, the experienced roentgenologist will clearly mark it so as to identify the essential points. These markings, however, should not be so obtrusive as to mar the effect of the complete reproduction. After the print is made, the points of importance may be suitably identified by the method described for the identification of the details in the photographic illustration.

To the physician who secures it and to the reader, the roentgen-ray photograph is actual evidence of the facts brought out in the case report. On the other hand, if an author is trustworthy and reliable, he need not provide actual evidence for his reader, but, rather, will select his roentgenograms on the basis of new points to be brought out in the specific case. Thus, it is unnecessary to include five or six roentgenograms to illustrate a niche in the stomach as it occurred in six cases, unless something distinctly new is to be presented concerning each of these niches. In a paper describing a method of making the ureters, the kidneys or the gallbladder visible by the injection of various opaque substances, it is unnecessary to have more than one or two pictures showing the results of the process. Obviously, the best in the series will be selected for this purpose. The author may then state in his text that eighteen or twenty similar plates were prepared, with varying results.

From a study of the medical periodicals received at the office of THE JOURNAL, and also of manuscripts submitted, it is clear that an undue amount of money and of labor is being expended in our periodicals on the unnecessary reproduction of superfluous roentgenograms. In certain instances, the details to be brought out by a roentgenogram are visible on a study of the original plate, but so much is lost in the process of reproduction that the illustrations are practically worthless. In such instances, it is better to submit a diagrammatic outline of the roentgenograms, to be published either simultaneously with the roentgenogram or by itself, and to state in the legend that it is made directly from the original roentgenogram. (Examples of the results secured by this method also will be included in the completed book.) Obviously, only such parts of a roentgenogram as are necessary for identification of the portion of the body presented and to show the essential details are to be reproduced. The author will do well to insert arrows indicating the essential points on his prints and to indicate on the print the portions to be included in the reproduction.

ZINC ETCHINGS

Zinc etchings are used in the reproduction of line drawings and of printed matter appearing in black and white. Such drawings should be made with India ink, on hard, white paper, and should be neatly done, straight lines being made with a ruler, and circles with a compass. The average physician, not having had the training of a draftsman, usually is not competent to make creditable drawings; therefore, most medical periodicals cooperate with the author to provide work by a competent artist from the rough sketch that may be submitted.

The line drawing should be made sufficiently large to permit of reduction. The process of reducing will soften the drawing and give the reproduction a more finished appearance.

GENERAL RULES

1. Illustrations must illustrate.
2. They should be identified and correctly numbered, preferably by a paper label pasted on the reverse side. This label should bear the name of the author and the number of the illustration, and should be so pasted as to indicate the top of the picture. On request accompanied with a stamped, addressed envelop, the American Medical Association will provide labels in quantities of twelve or less for manuscripts to be submitted to its publications.
3. Illustrations should be sent flat—not rolled or folded.
4. Indication should be made in the manuscript as to the place at which the author would like to have each illustration inserted.
5. Illustrations should not be assembled in groups, to be published as a plate, unless this is clearly the scope and custom of the periodical in which the paper is to appear.

6. Lettering on illustrations should appear, preferably, within the borders of the illustration.

7. Because the cost of reproducing illustrations is such an important item, the American Medical Association Press has adopted the following rules relative to the reproduction of colored and other illustrations:

1. If the editors believe that an illustration should be reproduced in colors, the Association Press will pay half the expense, the other half to be borne by the author. If it appears that an illustration would be as satisfactory if reproduced in black and white, all the expense must be borne by the author if he desires to have it reproduced in colors.

2. When it is believed that an unnecessary number of illustrations accompanies a manuscript and the author desires to have reproduced some illustrations which the editors think unnecessary, the author must bear the expense connected with the reproduction of such illustrations.

3. The cost of reproducing illustrations in society transactions must be borne by the author or by the society. The incorporation of halftone illustrations in these reports necessitates not only the expense of the blocks, but also the use of enameled or calendered paper in a part of the periodical in which such paper is not regularly used.

If an author wishes his illustrations returned, he should write the word "return," together with his address, on the label on the back of each picture, and in submitting his manuscript he should specifically request the return of the illustrations after the publication of the article. It is necessary that illustrations be held by the publisher until the article is in pages, so that they may be properly identified by the proofreaders.

LEGENDS

A full descriptive legend of each picture, to be placed beneath it when published, should be provided. These should be numbered to correspond with the pictures, and should be listed consecutively. They must be given the same care in composition and in expression as is the material in the body of the article. The legend should explain fully all the important points brought out by the illustration and identify each of the letters, arrows or other marks included within the picture, so as to aid the reader in finding the important points. (Samples of appropriate legends will be included with typical illustrations in the completed book.)

CONCLUSION

Suitable illustrations attract the interest of a reader and, if well selected and properly reproduced, are likely to cause more readers to familiarize themselves with the contents of an article than would otherwise notice it. Obviously, the eye is caught by the picture even before the reader's attention is attracted by the title or by the text. Moreover, illustrations constitute actual scientific evidence; their preparation should be given meticulous attention. In this connection, the following paragraph from the preface of S. Ramón y Cajal's "Histologie du système nerveux de l'homme et des vertébrés," is interesting:

> Figures, some in black and white, others in color, illustrate the text of this work. Their number is considerable; in truth, the number of illustrations is never too many, especially in anatomy, where it might be said that the figures are more important than the text, on the condition, of course, that they are, like ours, copied with the greatest minuteness from irreproachable preparations. Such figures then are nature itself—the facts themselves—thus submitted to the examination and to the free interpretation of a host of observers. They are also documents of infinite value to which future generations may have recourse with advantage in the continuous struggle of opinions and theories. The text represents the author, that is to say, one of the various ways of looking at nature and the facts, with the constant tendency to deform and simplify them according to the ineradicable conditions of his cerebral make-up.

(To be continued)

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION. W. A. PUCKNER, SECRETARY.

TYPHOID VACCINE (See New and Nonofficial Remedies, 1924, p. 326).

Cook Laboratories, Inc., Chicago.

Typhoid Vaccine X Plain.—A suspension of killed *Bacillus typhosus* in physiologic solution of sodium chloride, preserved with 0.4 per cent. of cresol. Marketed in single 1 Cc. carpule (tube) packages containing 500 million killed bacteria per cubic centimeter; in packages of ten 1 Cc. carpules, each containing 500 million killed bacteria per cubic centimeter; in packages of four 1 Cc. carpules, each containing 1,000 million killed bacteria per cubic centimeter and in packages of ten 1 Cc. carpules, each containing 1,000 million killed bacteria per cubic centimeter.

Typhoid Vaccine XX Combined.—A suspension of killed *Bacillus typhosus*, killed *Bacillus paratyphosus* A and killed *Bacillus paratyphosus* B in physiological solution of sodium chloride, preserved with 0.4 per cent. of cresol. Marketed in single 1 Cc. carpule (tube) packages containing 500 million killed *Bacillus typhosus*, 375 million killed *Bacillus paratyphosus* A and 375 million killed *Bacillus paratyphosus* B per cubic centimeter; in packages of ten 1 Cc. carpules each containing 500 million killed *Bacillus typhosus*, 375 million killed *Bacillus paratyphosus* A and 375 million killed *Bacillus paratyphosus* B per cubic centimeter; in single 1 Cc. carpule packages containing 1,000 million killed *Bacillus typhosus*, 750 million killed *Bacillus paratyphosus* A and 750 million killed *Bacillus paratyphosus* B per cubic centimeter and in packages of ten 1 Cc. carpules each containing 1,000 million killed *Bacillus typhosus*, 750 million killed *Bacilus paratyphosus* A and 750 million killed *Bacillus paratyphosus* B per cubic centimeter.

MIXED BACTERIAL VACCINES (See New and Nonofficial Remedies, 1924, p. 330).

Cook Laboratories, Inc., Chicago.

Acne Vaccine Combination X.—A suspension containing killed *Bacillus acne* and killed *Staphylococcus albus* in the proportion of 1 of the former to 20 of the latter, in physiological solution of sodium chloride, preserved with 0.4 per cent. of cresol. Marketed in packages of four 1 Cc. carpules (tubes) containing, respectively, 262 million 500 thousand, 525 million, 787 million 500 thousand and 1,050 million killed bacteria per cubic centimeter; in single 1 Cc. carpule packages containing 1,050 million killed bacteria per cubic centimeter and in packages of ten 1 Cc. carpules each containing 1,050 million killed bacteria per cubic centimeter.

RESORCINOL MONOACETATE. — Resorcin Acetate, m-Hydroxyphenyl Acetate.—m-Acetyloxyphenol $C_6H_4(OH).(OOCCH_3)$. The monoacetic ester of resorcinol.

Actions and Uses.—The action of resorcinol monoacetate is similar to that of resorcinol, but milder and more lasting because of the gradual liberation of resorcinol.

Resorcinol monoacetate is used in the treatment of acne, sycosis, chilblains, and particularly in the treatment of alopecia and seborrhea.

Dosage.—Resorcinol monoacetate is applied in ointments of from 5 to 20 per cent. and in acetone solution. For scalp lotions, alcoholic solutions of from 3 to 5 per cent. are used.

Resorcinol monoacetate is a viscous, lemon yellow liquid, boiling under ordinary pressure at 283 C. with decomposition. It is soluble in alcohol, acetone and most organic solvents; sparingly soluble in water. It has a faint characteristic odor and burning taste. Resorcinol monoacetate, at a pressure of 10 mm., distils completely between 150 and 153 C.

Dissolve 10 Cc. resorcinol monoacetate in 20 Cc. benzene and shake with 100 Cc. of distilled water containing methyl orange solution: not more than 0.5 Cc. tenth-normal alkali is required to neutralize the free acidity.

Resorcinol Monoacetate-Eastman Kodak Co.—A brand of resorcinol monoacetate-N. N. R.

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SATURDAY, MAY 9, 1925

NOVELTIES OF THE CIRCULATION

Physiologic research in recent years has furnished various novel findings with regard to the circulatory mechanism of man. To the clinician, the electrocardiograph perhaps represents the most outstanding contribution. At first it was regarded preeminently as an instrument of research, involved in principle, complex in construction, and beyond the scope of more than an occasional specially trained technician. Nevertheless, the development of the technic of electrocardiography from the standpoint of clinical medicine has been rapid and fruitful with respect alike to the diagnosis, therapy and prognosis of various heart affections. One need not thumb many pages of almost any of the current journals relating to scientific medicine to find electrocardiograms presented with almost the same freedom long enjoyed by charts of temperature, pulse and respiration. The importance of this development may be better appreciated if it is understood that there are cardiac conditions to which the history, physical signs and other manifestations of the patient give no satisfactory distinguishing clues. For example, a lesion of a branch of the bundle of His is one of the heart defects that can be detected only by means of electrocardiographic records. Because these are often difficult to secure, a great many cases of the defect have remained unrecognized; yet, as Hart[1] has recently pointed out, one who has the opportunity of studying a large number of heart defects with the aid of electrocardiograms is able to make a diagnosis of the lesion of the bundle of His at fairly frequent intervals. The defect, therefore, is not uncommon.

Our knowledge of the functional activity of the capillaries also has been largely revamped in recent years, so that their possible rôle in many vascular reactions must be seriously taken into account. The long debated suspicion that the smallest vessels, the capillaries and venules, have an independent contractility has been changed to a reality. They are known to respond by a change in caliber to chemical and mechanical as well as to nervous stimulation. It has become proper to speak of capillary tone. It is not unlikely that different areas of the peripheral vascular bed may function independently of one another. The technic for the direct observation of capillary changes has already been developed to a degree that makes it applicable to direct observations of the smallest vessels in the human skin. Consequently, observation of the capillaries already has been applied in the clinic. Thus, Brown[2] of the Mayo clinic has recently shown that Raynaud's disease gives evidence of disturbed capillary tone, abnormal flow or complete stasis. The degree in which these abnormalities exist determines in large measure the characteristic color of the skin. These facts, determined by careful direct observation, confirm the conclusions drawn by Raynaud from less direct evidence in the original description of the disease that bears his name.

Another novelty in the domain of circulatory mechanics has recently been described by White[3] as a "centripetal venous pulse." Every student of medicine is aware that the central veins, such as the external jugular, pulsate synchronously with the heart beat. This venous pulse is due to the fact that the changes in pressure occurring in the auricles are propagated outward into the veins. The pulsations which may, according to White, be elicited in superficial veins, such as those on the back of the hand, are not transmitted directly back from the heart, as is the jugular pulse. They are apparently passed from the arteries through the capillaries and venules into the larger veins. It appears that such a centripetal venous pulse in normal persons was recognized nearly a century ago, so that White's interesting contribution may, in a sense, be regarded as a rediscovery.

SIDETRACKED BLOOD CORPUSCLES

There are few exigencies in everyday life that make such demands on the circulation as does active muscular exercise. The contractile performance that it entails calls for an extremely liberal supply of oxygen and a prompt removal of the products of muscular exertion. It is not surprising, therefore, that there should be circulatory readjustments aiming at both a larger blood supply to the active parts and its consequent thorough purification. In certain cases of threatened oxygen shortage, such as may occur at high altitudes, one of the responses to the anoxemia consists in an increment in the number of erythrocytes. In a study of athletes in training at the University of Pennsylvania, Hawk observed that the muscular exer-

1. Hart, J. S.: Block of the Branches of the Bundle of His, Arch. Int. Med. **35**: 155 (Jan.) 1925.

2. Brown, G. E.: The Skin Capillaries in Raynaud's Disease, Arch. Int. Med. **35**: 56 (Jan.) 1925.

3. White, H. L.: Observations on a Centripetal Venous Pulse in Man, Arch. Int. Med. **35**: 124 (Jan.) 1925.

tion incident to running, walking, bicycle riding and swimming invariably caused an immediate increase in the number of erythrocytes and an accompanying leukocytosis. The increment in certain instances amounted to 25 per cent. or more in the number of the erythrocytes. This was not looked on as due to the production of new cells, for the possibility of such enormous sudden gains in this way seems rather remote. It was believed, rather, that the sudden increment is due primarily to the passage into the circulating blood of a large number of cells lying in various parts of the body and inactive before the time of the muscular exercise.

Subsequently, Schneider and Havens[1] observed somewhat comparable changes in the percentage of hemoglobin and the number of erythrocytes in the blood of active athletes. They assumed that during muscular inaction a large mass of the blood is diverted to the splanchnic area, where it probably stagnates and gives up plasma, as lymph. Following muscular activity, a redistribution occurs. In harmony with this, it was also noted that abdominal massage and pressure raise the content of hemoglobin and erythrocytes in the blood of the peripheral capillaries. There was no evidence that even long continued or severe exertion brought about any increased destruction of erythrocytes. If further evidence of their comparative stability and the characteristic readjustments in the circulation as the result of exercise were desired, it could be found in the studies of Isaacs and Gordon.[2] They were concerned primarily with possible changes in the blood cells from the standpoint of production and destruction. A considerable number of persons, running a marathon race of 26 miles in less than three hours, showed a relative and absolute increase in the number of polymorphonuclear neutrophil leukocytes and blood platelets in the peripheral circulation. The character of the red cells and the relative percentage of their immature forms remained practically unchanged in the peripheral circulation during the exercise. With the possible exception of the blood platelets, there was no definite evidence of newly formed or immature cellular elements being added to the circulation. These investigators regard the circulatory changes attendant on severe exercise as probably due to a more thorough mixing of the blood of the internal and peripheral blood vessels, with a redistribution of its formed elements. Accordingly, the effect of exercise, so far as the cellular composition of the blood is concerned, has well been described as the result of "the stirring up" into the general circulation of blood corpuscles that have been temporarily "stored" or sidetracked in less active areas. Since the direct observations, notably by Krogh,[3] that stagnant cells may be present in various parts of the circulation, the foregoing conclusion is no longer difficult of comprehension.

1. Schneider, E. C., and Havens, L. C.: Changes in the Blood After Muscular Activity and During Training, Am. J. Physiol. **36**: 239, 1915.

2. Isaacs, R., and Gordon, B.: The Effect of Exercise on the Distribution of Corpuscles in the Blood Stream, Am. J. Physiol. **71**: 106 (Dec.) 1924.

THE MENACE OF MORBIDITY

Death and disease are no longer accepted as a matter of course. It is the aim of hygiene to enable man to attain freedom from illness and disability of every kind and thus approximate the ideal existence with respect to health. Length of life is, however, only one indication of vitality.[4] Every one recognizes that the life of a valetudinarian or an invalid, however long, is only a narrow stream. We may therefore conceive, besides the dimension of length, another dimension of life, which may be called its "breadth." By the breadth of life we mean its healthiness. Just as length of life is limited by and opposed to mortality or death, so breadth of life is limited by and opposed to invalidity or illness.

Sydenstricker[5] recently remarked that the problems and aims of public health are still set forth almost entirely in lethal terms whenever statistics are used. We speak of an unfavorable death rate, he adds, and measure success in a lowered mortality. The best indexes that have been available of the prevalence of nearly all diseases are the fatal cases, and our epidemiology is limited, for the most part, to statistics of deaths. On this account an illustrative attempt has been made to secure some statistical estimate of what ill health may mean in a representative community. Under the auspices of the government service, observations on the incidence of illness have been conducted over a period of more than two years in a general population group of between 8,000 and 9,000, representing about 1,600 families.

The results for this small city are believed by Sydenstricker not only to show the inadequacy of mortality statistics for this purpose but also to suggest the kind of picture that complete morbidity records would afford. More than a hundred cases of illness occurred annually for each death. More than half the morbidity was due to respiratory diseases. Disorders of the digestive system caused an annual illness rate of 117 per thousand, but a mortality rate of less than 1 per thousand. The "general diseases"—epidemic and nonepidemic—composed principally of those diseases against which public health effort has been mainly directed, caused only 11 per cent. of all illnesses.

It has been asserted that the millions of persons always on the sick list in the United States represent patients for the most part older than the average.

3. Krogh, A.: The Anatomy and Physiology of Capillaries, New Haven, 1922.

4. Fisher, Irving: Report on National Vitality, Its Wastes and Conservation, Bull. 30, Committee of One Hundred on National Health, Washington, Government Printing Office, 1909.

5. Sydenstricker, Edgar: The Incidence of Illness in a General Population Group, Pub. Health Rep. **40**: 279 (Feb. 13) 1925.

There are representations that "morbidity increases with age in geometric progression." [4] The government report concludes that while deaths occur principally in infancy and in old age, ill health, as measured by the incidence of illness, occurs with comparatively little variation throughout life. It is prevalent among the young, those in the "prime of life," and the aged, without much discrimination. From the standpoint of "efficiency" in national life, such morbidity surveys should indicate in what respects preventive medicine will find it most profitable to direct its efforts to special age groups. "It is not hard," says Sydenstricker, "to figure that a day of sickness prevented at the age of 30 or 40 is more profitable than at the age of 70." If possibility of achievement and capacity to enjoy life are not sufficient motives for attention to these neglected aspects of health, a "businesslike calculation" may be more appealing to some persons. Of the 3,000,000 sick, very close to a third, or 1,000,000 persons, are in the working period of life. Assuming that average earnings in the working period are $700, and that only three fourths of the million potential workers would be occupied, we find more than $500,000,000 as the minimal loss of earnings. How to estimate in dollars and cents the personal satisfaction derived from undisturbed health may be left to the reader.

RECENT CONSIDERATIONS IN THE MANAGEMENT OF DIABETES

Proper schedules of dietary regulation, as well as the rational use of insulin in the management of diabetes, postulate an understanding, in the case of each patient, of the limits of his "tolerance" to foods of various sorts. In the case of the newly discovered pancreatic hormone the fact that it is, so to speak, somewhat evanescent in its action calls for not only a satisfactory determination of dosage but also a proper routine with respect to the time of its administration. As one student of the problem of therapy in diabetes has summarized the situation, it is obviously to be desired that the doses of insulin be as small and the administrations as infrequent as possible. Moreover, he adds, with a diet adequate for maintenance and reasonable activity, the blood sugar concentration throughout the day must be held within normal limits. To accomplish this requires, first, an appreciation of what the normal blood sugar values throughout the day are and, secondly, an understanding of the effects that various diets and insulin dosages, and certain combinations of these, produce in diabetic patients.

There are a fortunate few of the latter on whom very detailed tests can be undertaken under carefully controlled conditions. The great majority of the patients cannot or will not countenance the prolonged routine of such clinical investigation, particularly when it involves a long sequence of blood sugar estimations. The welfare of this army of unfortunates must be provided as advantageously as possible through the application of such procedures as circumstances will permit. Consequently, it is highly important to learn those general features of the disordered metabolism in diabetes as may have a somewhat general application. It is now well known that in the absence of adequate amounts of insulin a rise in the level of the circulating blood sugar follows each meal containing carbohydrate. However, there is some evidence available that this postprandial rise is not always the same after each meal. Jonas, Miller and Teller,[1] for example, have found at the University of Pennsylvania Hospital that in many cases of both mild and severe diabetes in which the patients receive the same amount of carbohydrate at each meal, the maximal rise usually occurs after the breakfast, even when an adequate amount of carbohydrate is allowed. This holds true for diets either low or reasonably high in carbohydrates. More specifically, the Philadelphia clinicians observed that without insulin the highest blood sugar concentration usually occurs one hour after breakfast; and with insulin, either at that time or just before the administration of the first dose of insulin for the day. They also noted that practically the lowest blood sugar level without insulin is to be found just before breakfast and that with insulin as they have used it, the lowest level is just before lunch or in the midafternoon.

Another feature of importance derived from these studies is the general observation that in diabetic patients without insulin, the highest blood sugar concentration develops soon after breakfast. If sugar occurs in the urine, it would be expected in greatest amount at the same time. Jonas and his collaborators have repeatedly found this to be true, glycosuria often being present at only this time in the day. In consequence, when only a single specimen of urine can be obtained in suspected cases of diabetes, as often happens in office practice, they propose that one voided an hour or more after breakfast should be secured. For practical purposes, they further suggest that in the study of all diabetic patients, three blood sugar determinations should be made on one day: one on a specimen collected before the breakfast or before the first administration of insulin, if that is being used; one an hour after the breakfast, and a final one just before the luncheon. By these three estimations, a reasonably accurate picture of the full day curve can be formed.

The association of hepatic disorder with diabetes has often been reported. It has even been suggested that this may contribute to the symptomatology of the disease. A group of investigators [2] at the Medical School

1. Jonas, Leon; Miller, T. G., and Teller, Ida: All Day Blood Sugar Curves in Nondiabetic Individuals and in Diabetic Patients With and Without Insulin, Arch. Int. Med. 35: 289 (March) 1925.
2. Jones, C. M.; Castle, W. B.; Mulholland, H. B., and Bailey, Francis: Pancreatic and Hepatic Activity in Diabetes Mellitus, Arch. Int. Med. 35: 315 (March) 1925.

of Harvard University has secured evidence that in many cases there is a diminution of pancreatic enzyme activity, involving primarily the lipolytic and proteolytic enzymes, and also often an abnormally high elimination of bile pigment. The Boston workers take these findings to indicate that in diabetes mellitus there is a marked alteration in the external secretory activity of the pancreas and in the hepatic function. The enzyme abnormalities are probably due to associated anatomic and functional changes in the acinose tissue of the pancreas. Undernutrition, they add, may play a part in the production of such changes, but it is not the sole cause. Such alterations in pancreatic or liver function may well contribute to the symptomatology of diabetes. It is suggested that the diminution of enzyme activity may result in disturbances due to improper digestion of fat and protein. It is interesting to learn, therefore, that efficient insulin therapy, with its associated increase in food intake and improvement of tissue function, seems to be associated with a reduction in pancreatic and hepatic abnormalities.

Current Comment

TYPHOID IN OYSTERS

In this issue of THE JOURNAL appear two papers [1] which supply experimental evidence as to the length of time typhoid bacilli may remain alive in oysters, and therefore be capable of producing typhoid in persons who may eat such contaminated food. The experiments conducted by E. O. Jordan showed that oysters contaminated with typhoid bacilli contained living typhoid bacilli when kept at icebox temperature for as long as twenty-four days. There was no evidence of multiplication; rather, there was a diminution with the passing of time. Confirming these results, Drs. F. O. Tonney and John L. White of the Chicago Department of Health found that the longevity of typhoid bacteria in oyster juice of both shucked and shell oysters varied with the temperature at which they were kept. At the temperature of ice the bacteria lived twenty-two days in shell oysters at 45 F. The bacteria in living shell oysters during dry storage lived longer than the oysters. Coincident with these observations, Conrad Kinyoun [2] of the United States Public Health Service has found that the typhoid organism may be recovered as long as fifteen days after it has been fed to oysters under ordinary conditions, when held in temperatures both of —2.8 C. and of 14.4 C. Obviously, if oysters are infected at the place where they are grown, the infection may persist for a considerable length of time under ordinary conditions of use. The series of experiments reported establish beyond doubt the importance of preventing contamination at any time from the beginning of the growth of the oyster to its ultimate consumption.

1. Jordan, E. O.: The Viability of Typhoid Bacilli in Shell Oysters, this issue, p. 1402. Tonney, F. O., and White, J. L.: Viability of Bacillus Typhosus in Oysters During Storage, this issue, p. 1403.
2. Kinyoun, Conrad: Viability of B. Typhosus in Stored Shell Oysters, Pub. Health Rep. **40**: 819 (April 24) 1925.

BARLEY, BEER AND B—A VITAMIN EPISODE

In the earlier days of research on the distribution of vitamins in food products, it was learned that vitamin B is present in barley and other cereal grains, and also in the extracts prepared from their malted derivatives. It was accordingly natural to assume that beers brewed from such extracts or "worts" by the addition of yeast would be equally rich in vitamin B. The added yeast has even been supposed to contribute additional vitamin B. This fact was hailed with rejoicing by the advocates of beer. The vitamin would obviously add a new virtue to a beverage that was being extolled for its residual food value as well as its "stimulating" qualities. Great has been the disappointment in certain quarters at finding that, in the test of actual experiment, the vitamin seems to be lacking.[1] This mysterious circumstance has apparently been explained by Southgate's investigations at the University of Sheffield,[2] in England. They show that, instead of adding to the content, the yeast, during fermentation, actually abstracts the vitamin almost quantitatively from the wort. The main loss of vitamin B in the preparation of beer is thus accounted for. Like an intestinal parasite, the yeast cells help themselves to some of the best food—the sugar and vitamin B—that the barley malt can yield, leaving in place of them a quota of new products.

TOLERANCE TO MORPHIN

The increased tolerance toward certain drugs and poisons that the human organism acquires through habituation has long presented a problem of singular perplexity to the student of immunity. What is the means of defense developed under such conditions? An enumeration of some of the varied hypotheses advanced is in itself sufficient to indicate that the correct solution to the question has not yet been found. It has been suggested that there is development of increased oxidative powers, with the consequent conclusion that the poison is more rapidly destroyed in the tolerant organism. This type of explanation cannot apply to such a substance as arsenic; and there is a lack of tenable evidence to apply it to morphin and the opium alkaloids that furnish the most outstanding instances of tolerance in drug addiction. In connection with the alleged increased power to destroy morphin in the habitué, it is known that the blood still contains quantities of the drug toxic for normal animals; hence, at best, there may be a certain "refractoriness or cellular immunity" to the drug. Through reasoning by analogy with the effects of organic toxins of bacterial origin, it has been alleged that immunity to morphin may be developed in a serologic manner. This would involve the development of an antitoxin-like substance in the blood of the immune or tolerant. Several years ago, Pellini and Greenfield [3] reached the conclusion, on

1. Beer and Vitamins, Current Comment, J. A. M. A. **83**: 1851 (Dec. 6) 1924.
2. Southgate, H. W.: The Effect of Fermentation on the Water-Soluble Vitamin Content of Wort, Biochem. J. **18**: 1248, 1924.
3. Pellini, E. J., and Greenfield, A. D.: Narcotic Drug Addiction, I, The Formation of Protective Substances Against Morphin, Arch. Int. Med. **26**: 279 (Sept.) 1920.

the basis of direct experiment, that no substance is formed in the blood serum of a human being who has acquired a high tolerance to morphin that is capable of conferring any degree of immunity to the toxic action of morphin on an animal into which it is injected. Confirmatory evidence that transferable immunizing substances are not present in the blood serum of morphin and heroin addicts has recently been presented from the United States Public Health Service by DuMez and Kolb.[4] For the present, we must continue to conclude that the tolerance established to such plant alkaloids is of a nature totally different from the reaction to antigenic products known in modern immunology.

Association News

THE ATLANTIC CITY SESSION

Camp Greene Base Hospital

The Association of Medical Officers who served at the Base Hospital, Camp Greene, N. C., will hold a reunion during the Atlantic City Session. Dr. Claude P. Brown, Twenty-Fourth and Delancey streets, Philadelphia, is the secretary of this organization.

Nebraska Alumni Association

The luncheon of the Nebraska Alumni Association will be at the Hotel Ambassador at noon, Wednesday, May 27. All former Nebraska men are invited to attend. Dr. W. R. Delzell, 945 Lexington Avenue, New York, is in charge of arrangements for the luncheon.

Philadelphia Alumni Association

The Philadelphia Alumni Society of the Medical Department, University of Pennsylvania, will hold a smoker, Wednesday, May 27, at Atlantic City. For further information address Dr. Stephen E. Tracy, 1527 Spruce Street, Philadelphia.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ALABAMA

Statue of Dr. Wyeth.—The Alabama State Medical Association adopted a resolution, April 22, at its annual meeting in Birmingham, accepting the offer of Mrs. John A. Wyeth, New York, of the statue of her husband, the late Dr. Wyeth, a native of Alabama (THE JOURNAL, June 3, 1922, p. 1738). A committee will be appointed to arrange for erecting the statue, probably in the capitol grounds alongside the statues of Drs. Jerome Cochran and William H. Sanders (THE JOURNAL, Nov. 1, 1924, p. 1436).

State Medical Election.—At the annual meeting in Birmingham, April 21-24, Dr. Charles A. Mohr, Mobile, was elected president of the Alabama State Medical Association; Drs. Joel C. Chandler, Columbiana; Thomas Joseph Dean, Union Springs; Victor H. Williams, Jasper, and John A. Kimbrough, Thomasville, vice presidents; Dr. Benjamin B. Simms, Talladega, secretary; Dr. Douglas L. Cannon, 519 Dexter Avenue, Montgomery, assistant secretary, and Dr. Jacob U. Ray, Jr., Woodstock, treasurer.

2. DuMez, A. G., and Kolb, L.: Absence of Transferable Immunizing Substances in the Blood of Morphine and Heroin Addicts, Pub. Health Rep. **40**: 548 (March 20) 1925.

ALASKA

Chiropractic Bill Defeated.—The bill introduced in the last legislature of the territory of Alaska to license chiropractors was defeated. Dr. Harry C. DeVighne, Juneau, secretary of the Alaska Territorial Medical Association, appeared against the measure. A poll of members of the house previous to Dr. DeVighne's exposition of chiropractic showed a large majority in favor of the bill. The vote on final passage, however, was 11 to 5 against it.

ARKANSAS

Amendment to By-Laws.—The Pulaski County Medical Society, Little Rock, voted to amend its by-laws so that no member may accept the position of club, society, lodge or organization physician, or continue to aid in medical or surgical work for any club, society, lodge or organization that collects fees from its members to cover such service. The amendment shall not be construed as preventing any member from accepting employment as medical inspector in case of accidental injury or railroad surgeon or attending the worthy poor at a less rate, or to give free service to those too poor to pay a fee or from acting under any political appointment in which the salary is fixed by proper authority; but no member shall bid for the practice of any organization, institution, corporation, family or individual, and no member of the Pulaski County Medical Society shall advertise or profess to use a method of diagnosis and treatment that has been condemned by the American Medical Association.

State Medical Meeting.—The annual meeting of the Arkansas Medical Society, Little Rock, May 13-15, will be the fiftieth anniversary of the society. The outstanding features of the program, according to the state journal, will be addresses by Dr. Charles W. Thompson, medical superintendent, Woodcroft Hospital, Pueblo, Colo., on "Dementia Praecox"; Dr. Verne C. Hunt, Mayo Clinic, Rochester, Minn., on "The Relation of Preparatory Treatment to Mortality Rate in Surgery of the Prostate," and Drs. Robert M. Lukens and William F. Moore of the Bronchoscopic Clinic, Jefferson Hospital, Philadelphia, on "Disease of the Lung; Lantern and Motion Picture Demonstration of Bronchoscopic Aid to the Internist and the Surgeon." A morning has been set aside for visiting the hospitals in Little Rock and for attending clinics arranged for the session. This being the society's golden jubilee, the *Journal of the Arkansas Medical Society* publishes a list of the 200 charter members of the state society, a reproduction of the bronze tablet erected to the memory of the first president, Dr. William B. Welch, and a large photograph of members of the society taken in 1900.

COLORADO

State Board Appointments.—The governor has appointed Drs. Philip Work, Denver, Charles F. Andrew, Longmont, and Vardry A. Hutton, Florence, members of the state board of medical examiners.

DISTRICT OF COLUMBIA

President Coolidge Vaccinated.—President Coolidge and employees at the White House have been vaccinated against smallpox on the request of the Public Health Service that all federal workers in Washington be inoculated. Fifty-four cases of smallpox have been reported in the National Capital since January 1, with nineteen deaths. There were three deaths, April 30. The antivaccinationists made a feeble effort to oppose the work for vaccination initiated by the health officer. News boys attempted to sell copies of a New York City publication with cries, "Don't be vaccinated." Health Officer Fowler announced that the police would arrest any one calling out similar warnings. He said that while he had no authority to interfere with the sale of any newspaper, he had arranged for the arrest of any person who would cry out any warning against vaccination. Dr. Fowler's action was based on a section in the contagious disease regulations which says "That no person . . . shall molest, hinder or in any manner prevent said health officer . . . in the service of said health department, from performing any duty imposed upon him or them by the provisions of this act."

ILLINOIS

Seven Deaths from Smallpox.—The state health director, Dr. Isaac D. Rawlings, announces that a malignant type of smallpox has appeared in Will County, and that seven deaths have occurred in about twenty cases reported. During the first four months of this year, about 1,000 cases of smallpox have been reported in the state.

Expression of Gratitude.—A letter signed the "Medical Profession of Murphysboro" and by sixteen individual physicians has been received, expressing sincere thanks to all physicians and nurses who assisted in the recent tornado emergency, and to the drug and instrument houses that gave, with no thought of pay, and the various hospitals that admitted the wounded. The letter is also an expression of the gratitude of the whole community of Murphysboro.

State Medical Meeting.—The annual meeting of the state medical society at Quincy, May 19-21, under the presidency of Dr. Lewis C. Taylor, Springfield, will be the diamond jubilee meeting of the society, and that of its host, the Adams County Medical Society, both having been organized in 1850. Headquarters will be at the Hotel Quincy. Among other features on the Wednesday program will be the oration in medicine by Dr. Charles P. Emerson, dean and professor of medicine, Indiana University School of Medicine, Indianapolis, whose subject will be "Hippocrates or Paracelsus," and the oration on surgery by Dr. George W. Crile, professor emeritus of surgery, Western Reserve University School of Medicine, Cleveland, whose subject will be "Hyperthyroidism and Peptic Ulcer—an Analogy." There will be symposiums by Northwestern University Medical School, University of Illinois School of Medicine, Loyola University School of Medicine and Rush Medical College. The first meeting of the house of delegates will be at 9 o'clock Tuesday morning. The alumni banquets will begin at 6 o'clock Wednesday evening. The secretaries' conference will be held Thursday afternoon. The principal meeting place of the sections will be at the Chamber of Commerce; the house of delegates will meet at the Elk's Club; the eye, nose and throat section at the Odd Fellows Hall. There will be a large group of exhibits in the armory. A trip to the Mark Twain Cave at Hannibal has been arranged for the visiting ladies, Tuesday afternoon; a tea with cards at the Country Club, Wednesday afternoon, and a theater party, Wednesday night. Wednesday morning there will be an automobile tour through Quincy. The men will be entertained at a smoker at the Elks Club, Wednesday night.

Chicago

Guest from England.—Dr. J. Basil Hall, president of the British Medical Association, will be the guest of the Chicago Medical Society, May 13.

Report of Illinois Social Hygiene League.—Thirty physicians give their time to the medical work of the Illinois Social Hygiene League, and 1,300 citizens contribute funds to its support. The ninth annual report notes that there were 2,023 new patients admitted in 1924, of whom 1,611 were men and 412 women. All of these except 488 were cases of venereal disease, and 1,211 were native born Americans. In addition to clinics, the league does educational work comprising shop talks, motion pictures, radio lectures, exhibits and the distribution of pamphlets. The receipts of the league last year were more than $42,000. No patient who can pay a private physician is accepted; 50 per cent. of the men and 70 per cent. of the women paid nothing; the remainder of the patients sometimes paid small fees or paid for medicine. No one is turned away because of lack of funds. The league needs $10,000 to carry out its 1925-1926 program.

Society News.—Dr. Mary Thorne, London, England, addressed the Medical Women's Club, April 8, on "The Romance of Medical Education for Women in England," and Dr. Bertha Van Hoosen on "Women in Medicine."——The Chicago Surgical Society held a symposium at the Alexian Brothers Hospital, May 1, Dr. Arthur Dean Bevan speaking on "Tumors of the Breast"; Dr. Kellogg Speed, "Tumors of the Male Breast," and Dr. Emil G. Beck, "What Should Be Done with the Advanced and Recurring Cancer of the Breast." The discussion was opened by Drs. Dean Lewis and Vernon C. David.——The Chicago Medical Society held a diagnostic clinic, April 29. Dr. Henry Schmitz spoke on "The Diagnosis and Treatment of Carcinoma of the Cervix"; Dr. Charles E. Humiston, on "Surgical Clinic—Report of Abdominal Cases," and Dr. Meyer Solomon on "Stuttering and Stammering: The Nature, Mechanism and Principles of Treatment."

INDIANA

State Board Appointments.—Dr. Homer C. Haas, Peru, and Dr. James A. Turner, Nashville, have been appointed members of the state board of health, to succeed Dr. Hugh A. Cowing, Muncie, and Dr. Adah McMahan, Lafayette. The appointments, which are for a term of four years, were made by a committee composed of the governor, the secretary of state and the auditor of state.

University News.—The trustees of Indiana University, Indianapolis, have made the following changes in the faculty of the medical school: Drs. Alembert W. Brayton, Louis Burckhardt and James H. Taylor to be professors emeriti; Dr. Charles R. Sowder clinical professor of medicine; Dr. Arthur M. Mendenhall, associate professor of obstetrics; Dr. Thurman B. Rice, associate in hygiene and sanitary science; Drs. Lester A. Smith and Raymond C. Beeler, associate and assistant, respectively, in roentgenology; Dr. John F. Barnhill, professor of surgery of the head and neck, and Dr. LaFayette Page, professor of rhinology, otology and laryngology. Albert Stump, Indianapolis, an attorney, received the title of lecturer on medical jurisprudence.

IOWA

Twelve Physicians Fined.—Judge Wade in federal court at Keokuk fined twelve Lee County physicians $250 each, April 23, on charges of violating regulations regarding the issuing of prescriptions for liquor. The government charged, it is reported, that the physicians issued liquor prescriptions without first having made proper medical examination of the patients. The physicians entered a plea of nolo contendere. The fines were not collected and stand at the discretion of the court.

MARYLAND

Smallpox in Maryland.—The director of the state department of health, Dr. John S. Fulton, has issued a bulletin on the smallpox situation, advising that all persons who have not been successfully vaccinated within the last year should be vaccinated without delay. The total number of cases of smallpox in 1924 was ninety-seven, as compared with twenty-five in 1923 and seventeen in 1922. Attention is directed to outbreaks of virulent smallpox that exist in nearby states, and to the 49,587 cases and 871 deaths that occurred in forty states and the District of Columbia in 1924. Vaccine will be furnished free of charge to physicians throughout the counties on application, or through the local health officer.

State Medical Election.—The one hundred and twenty-seventh annual convention of the Medical and Chirurgical Faculty was held, April 26-28, at Baltimore. The most important event was the announcement of an addition to the library at the rear of the Medical and Chirurgical Faculty Building, opening directly into Osler Hall and containing a large auditorium. The new addition will conform in architecture with the old building and have an entrance on Maryland Avenue, giving the complete structure a depth of one full city block. Dr. Thomas B. Johnson, Frederick, was elected president of the association; Drs. Standish McCleary, Baltimore, George R. Myers, Hurlock, and Samuel A. Nichols, Dayton, vice presidents; Dr. Joseph A. Chatard, Baltimore, secretary (reelected), and Dr. Charles E. Brack, Jr., Baltimore, treasurer (reelected).

MASSACHUSETTS

Registration Revoked.—The registration of Dr. George H. Davis, Springfield, was revoked by the board of registration in medicine, March 27, Dr. Davis having assisted, it is reported, in carrying on the business of an unregistered person.

Dr. Otis Honored.—A silver loving cup was presented to Dr. Edward O. Otis, April 24, in recognition of his six years' service as president of the State Tuberculosis League and on the occasion of his being made honorary president. At this annual meeting of the league, Dr. Kendall Emerson, Worcester, was elected president; Dr. Roger I. Lee, Cambridge, vice president, and Drs. Vincent Y. Bowditch, Boston, and Eugene R. Kelley, Boston, honorary vice presidents.

Society News.—Dr. Evarts A. Graham, professor of surgery, Washington University School of Medicine, St. Louis, addressed the Harvard Medical Society, Peter Bent Brigham Hospital, Boston, April 28, on "The Gallbladder, an Old Subject from Some New Points of View." Dr. William deB. MacNider, professor of pharmacology, University of California, addressed this society, April 14, on "The Cardiovascular Action of Veratrum Viride in Normal and Certain Pathologic States."

Gymnasium for Harvard Medical School.—Harold S. Vanderbilt, a graduate of Harvard (A.B., 1907) has contributed $125,000 to Harvard University for a gymnasium to

be erected in connection with the new dormitory at Harvard Medical School, and agreed to make an annual contribution for five years to pay an instructor. The gymnasium will be built under the new medical school dormitory, occupying the basement and first floor, and will be large enough for a running track and basketball and for setting up exercises for a class of 125 men. It will be primarily a demonstration of the value of exercise and offer the means to study the effects of exercise on students through properly planned experiments.

MICHIGAN

Whipping Post Revived.—A bill to authorize the use of the whipping post in Michigan for men convicted of armed robbery or murder committed while attempting armed robbery was passed by a one-vote margin in the state senate, April 29. The bill was amended to exclude women and now goes to conference, having passed the house minus the amendment.

Personal.—Dr. Alexander Borland, Lansing, has resigned as director of health at the Michigan Agricultural College, to accept a position with the state department of health.——Dr. Walter C. Reineking, Rockford, Ill., has been appointed superintendent and medical director of the new county tuberculosis sanatorium at Muskegon.——Dr. Lindley V. Sprague, Detroit, has been appointed instructor of clinical medicine at the University of Wisconsin Medical School and a member of the student health staff.

Society News.—Dr. F. A. Besley, Chicago, addressed the Calhoun County Medical Society, Battle Creek, April 7, on "Diagnosis of Bone Tumors."——Dr. Paul B. Magnuson, Chicago, addressed the Kent County Medical Society, Grand Rapids, April 22, on "Lower Back Pain."——Dr. A. Graeme Mitchell, professor of pediatrics, University of Cincinnati College of Medicine, Cincinnati, addressed the Bay County Medical Society, Bay City, April 13, on "A Consideration of Some Phases of Acute Intestinal Disturbances," illustrated by lantern slides.

MINNESOTA

Bills Killed.—Among the bills introduced in the last legislature and which failed to pass, were the following: a bill to prohibit vivisection in this state and providing penalties therefor; a bill providing for the establishment of a separate board of chiropractic examiners; a bill providing for a separate board of naturopath examiners; a bill which would allow all kinds of practitioners to practice in hospitals, institutions or sanatoriums that are supported by public funds, and an antivaccination bill.

Labels on Caustic Alkalis or Acids.—The governor has signed a bill, passed by the last legislature, the object of which is to safeguard the sale and distribution of certain caustic acids, alkalis and other substances. Section 1 of this bill defines the term "dangerous caustic or corrosive substance," naming those to which the bill refers, and defines a "misbranded container," and provides for a proper label on which shall be directions for treatment in case of accidental personal injury by a dangerous caustic. Any dangerous caustic in a misbranded container that is being offered for sale is made subject to seizure. The act becomes effective after June 30, and the dairy and food commissioner will enforce it.

MONTANA

Personal.—Dr. Le Roy H. Labbitt, Hardin, has bought Haverfield Hospital, which has been closed during the last two years. It will be refurnished with modern equipment.——Dr. Harris A. Bolton, Helena, has been appointed superintendent of the state hospital for the insane.

Society News.—After a period of inactivity of four years, the Southeastern Montana Medical Society has been reorganized with Dr. Robert H. Beach, Glendive, president, Dr. Guy T. Haywood, Forsyth, vice president, and Dr. Malcolm C. Funder, Miles City, secretary-treasurer.

NEBRASKA

State Medical Meeting.—The fifty-seventh annual convention of the Nebraska State Medical Association will be at Lincoln, May 12-14, under the presidency of Dr. Palmer Findley, Omaha. Headquarters will be at the Hotel Lincoln. The guests of honor will be Dr. William Engelbach, professor of medicine, Washington University Medical School, St. Louis; Dr. Lee Wallace Dean, professor of ophthalmology and otolaryngology and dean of the Iowa University College of Medicine, Iowa City, and Dr. Arthur J. Cramp, director of the bureau of investigation, American Medical Association. An innovation at this meeting will be a floor manager. The feature of the first morning will be dry clinics. There will be a general meeting for the public Thursday evening, at which Dr. Cramp will speak on "Quacks and Nostrums." The chamber of commerce will give a banquet to members of the association Tuesday evening. There will be a golf tournament Tuesday and Wednesday at the Country Club. The state society of medical women will give a dinner at the Grand Hotel, Tuesday evening, May 12. Dr. Findley will deliver the presidential address at the annual banquet, Wednesday evening.

NEW YORK

Cornell Requires Vaccination.—Cornell University, Ithaca, will require that all students admitted to the university beginning with the fall of 1925 must be vaccinated against smallpox.

Dr. Squire's Appointment.—Dr. Amos O. Squire, for fifteen years resident physician at Sing Sing Prison, has been appointed to the newly created post of county medical examiner of Westchester. He will take office, July 1, when the two coroners' offices are abolished under an act recently signed by the governor.

Industrial Hygiene Bulletins.—Special Bulletin 130, "A Study of Hygienic Conditions in Steam Laundries and Their Effect on the Health of Workers," is ready for distribution on application; also "An Analysis of 100 Accidents on Power Punch Presses and Suggestions as to the Installation of Suitable Guards on Such Machines." Application may be made to the Director, Division Industrial Hygiene, New York State Department of Labor, 124 East Twenty-Eighth Street, New York City.

State Aid Laboratories.—In accordance with a recent law, the state has granted aid, for 1925, toward the maintenance of the Montgomery County Laboratory, Amsterdam; the Ontario County Laboratories, Geneva and Canandaigua; the Warren County Bacteriologic Laboratory, Glens Falls; the Niagara Falls Public Health Laboratory, Niagara Falls; the Madison County Laboratory, Oneida; the Saratoga County Laboratory, Saratoga Springs, and the Wyoming County Laboratory, Warsaw.

Complement Fixation Test for Tuberculosis.—The state department of health announces that the laboratory is now ready to perform the complement fixation test for tuberculosis as a routine examination, provided complete clinical data are submitted with the serum. A limited number of outfits are ready for distribution, which physicians may obtain through their district supply stations. The department believes that the practical value of this test has been demonstrated when interpreted in the light of careful clinical observation, and that as experience accumulates it may prove helpful also in prognosis.

Teaching Clinics in Pediatrics.—Beginning March 31, a series of five teaching clinics in pediatrics has been held in the South Side Hospital, Bay Shore, L. I., Tuesday afternoons, under the auspices of Suffolk County Medical Society, and sponsored by the Associated Physicians of Long Island and by the Second District Branch of the Medical Society of the State of New York. The South Side Clinical Society, a group of members of the Suffolk County Medical Society composing the staff of this hospital, will have actual charge of operating the clinics. The request for these clinics came by unanimous vote of members of the South Side Clinical Society. Suffolk County is favorably organized to support this plan for graduate instruction, but teaching facilities are available in other rural counties of the state, and the Suffolk County plan could be easily adapted to them.

Society News.—The April issues were the last weekly issues of the *New York State Journal of Medicine* for this year. It will now be issued monthly.——Dr. Wilhelm Kolle, professor of medicine, University of Frankfort-on-the-Main, will deliver an address at the meeting of the New York Association of Public Health Laboratories, Syracuse, May 12.——A dinner and round table conference of the School Medical Inspectors' Association will be held in Syracuse, May 12.——The annual meeting of the New York State Committee on Tuberculosis and Public Health of the State Charities Aid Association was held in New York City, May 8.——The Medical Women's Society of New York will hold its nineteenth annual meeting in the Hotel Syracuse, Syracuse, May 11, during the annual meeting of the State Medical Society,

under the presidency of Dr. Julia Kimball Qua, Amsterdam. Among others Dr. Leila Knox will speak on "Radiotherapy in Menorrhagia," and Dr. Ruth J. Crasson, New York, on "Rickets—Comparison of Medical Treatment with That of Ultraviolet Ray."

Association Changes Name.—The New York Tuberculosis Association has voted to change its name to the New York Tuberculosis and Health Association. The president, Dr. James A. Miller, said in part, in this connection, that the public has an incomplete idea of the association's varied line of endeavor in health education; health service for children; health information service, and vocational, hospital, clinical, tuberculosis advisory and research and health examination services; and that one of the most extensive pieces of public health work for negroes in the United States is carried on by the Harlem committee, comprising a campaign in health education, the maintenance of a dental clinic, and outings for undernourished children. At the meeting of the association, April 28, it was voted to organize a community dental service in New York, the program including an extensive campaign in schools, work shops, clinics and hospitals, and active cooperation with the Columbia School of Oral Hygiene. Many of the activities of the association have long been of a general health nature. A broader title, therefore, was inevitable.

New York City

Dr. Work Guest of Honor.—Dr. Hubert Work, Secretary of the Interior, was guest of honor at a dinner at the National Arts Club, May 5, at which plans were discussed for a cooperative investigation of the problem of reclamation, settlement and agricultural development of sparsely populated regions of the South Atlantic states.

Mottard, Alias "Dr. Green," Indicted.—Henry L. Mottard, alias "Dr. Green," a chiropractor, was indicted, April 26, on a charge of manslaughter following the death of Mrs. Anne Allison on whom, it is reported, Mottard performed an illegal operation. He pleaded not guilty and was remanded without bail to the Tombs (THE JOURNAL, April 25, p. 1280).

Promotions at Columbia.—The trustees of Columbia University have announced the appointment of Dr. Robert A. Lambert as professor of pathology and director of the School of Tropical Medicine in Porto Rico; Dr. Nathaniel R. Norton as professor in the department of diseases of children; and Drs. William C. Johnson and William C. Von Glahn, assistant professors of pathology to be associates in that department.

School for Study of Crime.—A school for the study of crime among children will be opened in September to executives and workers of institutions which will take the form of courses in New York University and applied work in the Children's Village under the direction of Leon C. Faulkner. Hastings H. Hart, Dr. Sanger Brown, 2d, Henry Thurston and Charles H. Johnson are on the advisory committee.

Dinner to Visiting Health Officials.—The Rockefeller Foundation gave a dinner at the Hotel Roosevelt, April 24, in honor of the Latin-American health officials who are on a two months' visit in this country under the auspices of the health section of the League of Nations. George E. Vincent, Ph.D., president, Rockefeller Foundation, was toastmaster, and among the speakers were Dr. Hugh S. Cumming, surgeon general, U. S. Public Health Service; Dr. Andres Gubetich of the faculty of medicine at Asuncion, Paraguay, and Dr. Anthony J. Lanza, executive officer of the National Health Council.

Lincoln Hospital Will Close.—The Lincoln Hospital, the Bronx, which opened its doors eighty years ago, will liquidate its assets and end its activities at the close of the present calendar year, it was announced, April 30, by the board of managers. Inability to meet the cost of running expenses under the present endowment and resources, and the city's refusal to take it over and maintain it as a municipal institution, are the reasons given for this action. Lincoln Hospital was originally founded exclusively for negroes, but in recent years it has cared for patients of all races.

Fund for Hebrew University.—The American Jewish Physicians' Committee met, April 21, at the Hotel Commodore, to inaugurate a campaign for $1,000,000 for the Medical College and Hospital of the Hebrew University in Palestine. Dr. Samuel J. Kopetzky, president, Medical Society of the County of New York, presided at the dinner. Dr. Nathan O. Ratnoff, president of the committee, announced that construction of the college would start this summer. The committee erected the microbiologic research laboratory last year at a cost of $250,000, and established a library of more than 10,000 volumes. Dr. Emanuel Libman is treasurer of the committee.

Society News.—The Women's Medical Association of New York City will hold an informal dinner at the Women's City Club, preceding the annual meeting, May 20. All medical women, graduates and undergraduates, are invited. Reservations should be made by addressing Dr. Ethel D. Brown, 26 Gramercy Park, before May 18.——The program of the New York Academy of Medicine, May 7, was arranged in cooperation with the department of medicine, New York Postgraduate Medical School. John A. Killiam, Ph.D., spoke on "Alkalosis: Chemical Studies"; Dr. Howard F. Shattuck, on "The Clinical Value of Recent Tests for Liver Function," and Dr. Herman O. Mosenthal, on "Blood Sugar Curves in the Diagnosis of Diabetes."

Institute of Public Health of Columbia University.—Founded under the terms of the will of the late Joseph De Lamar, this institute will eventually comprise a group of departments. The department of sanitary science, the second of the group, will be in charge of Earle B. Phelps, who for a number of years was on the faculty of the department of biology and public health of Massachusetts Institute of Technology, Boston, and later professor of chemistry at the Hygienic Laboratory, U. S. Public Health Service, Washington, D. C. Dr. Haven Emerson, head of the department of public health administration, is responsible, according to *Science*, for developing the project. An assistant professor of epidemiology will be appointed in August, and a new assistant professor of medicine in industrial hygiene in September.

NORTH CAROLINA

Conference of School Physicians.—The president of the state board of health, Dr. Joseph Howell Way, called a conference, April 21, of directors of medical service in the leading schools of the state to ascertain what is being done to promote the health of the student body and what is being taught to enable students better to resist disease.

Durham Physicians Indicted.—A federal grand jury sitting at Durham, April 21, returned bills of indictment against the following physicians of that city for violations of the Harrison Narcotic Law, each of whom has been ordered held in nominal bonds:

Dr. Needham P. Boddie (eight counts).
Dr. Edwin H. Bowling (ten counts).
Dr. Michael Roberson (twelve counts).
Dr. Ira J. Stoner (ten counts).
Dr. William A. Strowd (seven counts).
Dr. Elmar S. Waring (seven counts).

Tuberculosis Hospital.—Durham County will hold an election, June 27, on the question of appropriating $200,000 for the erection of the Durham County Tuberculosis Hospital. The local Tuberculosis Society, the board of health and the county commissioners strongly favor the plans, but it is said the city manager and city commissioners oppose them. At a recent public citizens' meeting it was pointed out that there are at present in the county of Durham 350 known cases of tuberculosis, and that the death rate from tuberculosis in 1924 led the state.

Directors of State Institutions.—Among the physicians appointed by the governor as members of boards of directors of state institutions are Dr. John D. Robinson, Wallace (to succeed himself), and Dr. John E. Hart, Wadesboro, a new appointee, State Hospital for the Colored Insane, Goldsboro; and Dr. James C. Braswell, Whitakers (to succeed himself), State Sanatorium for Tuberculosis, Sanatorium; Dr. Julius N. Hill Murphy, State Normal and Industrial College, Cullowhee, and Dr. Gideon H. Macon, Warrenton, Caswell Training School for Feeble-Minded, Kinston.

Statement of Committee.—In view of the publicity given to a statement that the University of North Carolina canceled an invitation to Professor Koehler to lecture (THE JOURNAL, April 18, p. 1192), the executive committee of the Society of Sigma Xi, of the University of North Carolina, desires to state that a lecturer chosen from some one of the sciences is selected annually by the executive committee of the society, and among the names presented for consideration this year was that of Professor Koehler of the University of Berlin, exchange professor at Clark University. His name was considered only incidentally, however, as the policy of rotation had already led to the decision to fill the lectureship this year from the field of the medical sciences. Professor Koehler, therefore, was not the choice, was not seriously considered, and no communication of any sort passed between the committee and Professor Koehler or any one at Clark

University, nor did an invitation or communication go to him at any time from the committee or the university authorities. The committee feels that it should make this statement in justice to all concerned.

OHIO

List of "Physicians and Surgeons M.D."—It has been announced that the Telephone Company of Cleveland will change the heading "Physicians and Surgeons" in its directory to "Physicians and Surgeons M.D." The board of directors of the Academy of Medicine of Cleveland has suggested to the company that the interests of the public will be best served by maintaining this list unbroken from beginning to end, and that all advertising or other matter, excepting names, addresses and telephone numbers of licensed doctors of medicine, be excluded from the columns; that the lines be in uniform type throughout, that hospitals, clinics, dispensaries, laboratories, sanatoriums, limited practitioners and the like should not be listed under the head, "Physicians and Surgeons M.D.," and that any advertisements should be arranged so as not to suggest that they are included in the list of "Physicians and Surgeons M.D."

OKLAHOMA

State Board Appointments.—Dr. James M. Byrum, Shawnee, has been reappointed secretary of the state board of medical examiners by the governor; others appointed to the board are Drs. William P. Fite, Muskogee; Harper Wright, Grandfield; Henry C. Weber, Bartlesville; William T. Ray, Gould; Daniel W. Miller, Blackwell, and Lewis E. Emanuel, Chickasha. The legislature recently reduced the number of members of the board from nine to seven.

Medical Arts Building Completed.—The twelve story Medical Arts Building, Oklahoma City, has just been completed, and about 40 per cent. of the physicians and dentists of the city have offices there; unexpired leases prevent others from moving at this time. Various enterprises and professions are represented among the tenants at present, but it is expected that the building will eventually be filled by members of the medical and dental professions. On the third floor is a drugstore and an optical parlor; on the fourth floor the Oklahoma County Medical Association's library; on the eighth, a complete roentgen-ray laboratory, and the Medical Arts Laboratory, equipped to do every kind of clinical laboratory examination. Dr. John S. Pine is president of the building association, Dr. Everett S. Lain, vice president, Richard S. Parsons, D.D.S., secretary, and Dr. Robert M. Howard, treasurer. Membership in the association totals more than 150.

PENNSYLVANIA

Surgical Program.—The surgical section of the state medical society has arranged seven major subjects to be presented as symposiums at the next annual meeting. The subjects are "Surgery of the Biliary System," "Orthopedic Surgery," "Pelvic Surgery," "Cranial Surgery," "Surgery in Children," "Fractures" and "Surgery of the Breast." Among others, Dr. Charles H. Mayo, Rochester, Minn., and Dr. William D. Haggard, president-elect of the American Medical Association, will give addresses.

New School of Pharmacy.—The president of Duquesne University, Pittsburgh, announces the addition of a school of pharmacy, which will open in September. A faculty is being selected, and a well known pharmaceutical educator will be appointed as dean. The number of students accepted for entrance will be limited, the aim being to provide individual instruction. A three and a four year course will be offered, the former leading to the degree of graduate in pharmacy, the latter to the degrees of pharmaceutical chemist and bachelor of science in pharmacy. This will be Duquesne University's first excursion into the medical sciences. The decision to enter this field was made after a careful study of the requirements of the pharmaceutical profession and the needs of the community.

Philadelphia

Hospital News.—Thomas Conway, Sr., has donated a plot of ground, valued at $50,000, as a site for the proposed hospital in Upper Darby Township, the building of which will cost about $400,000 and have a capacity of 100 beds.

Personal.—A. N. Richards, Ph.D., delivered the sixteenth Mary Scott Newbold lecture at the College of Physicians, April 27, on "Recent Observations Concerning the Nature and Mode of Regulation of Renal Function."——Dr. Thomas C. Stellwagen, Jr., has been appointed urologic surgeon at the Jewish Hospital.

More Funds to Fight Smallpox.—Another sum ($30,000) has been appropriated by the Philadelphia city council to combat the increase in smallpox. This money will be expended for isolation shelters and to purchase a special ambulance. Ten thousand dollars was previously appropriated for additional personnel.

TENNESSEE

State Medical Election.—At the annual meeting of the Tennessee State Medical Association, Nashville, April 21-23, Dr. William C. Dixon, Nashville, was elected president; Drs. John D. Brewer, Dyersburg, Byrd Rhea, Lebanon, and Fred A. Neergaard, Harriman, vice presidents; Dr. Joseph F. H. Gallagher, Nashville, secretary-editor; Dr. John O. Manier, Nashville, treasurer, and Dr. Hiram B. Everett, Memphis, speaker of the house.

Appointments at Vanderbilt.—The dean of Vanderbilt University Medical Department, Nashville, Dr. G. Canby Robinson, announces that Dr. Walter E. Garrey, professor of physiology at Tulane University of Louisiana School of Medicine, New Orleans, has been appointed professor of physiology at Vanderbilt; Dr. Barney Brooks, associate professor of clinical surgery, Washington University Medical School, St. Louis, has been appointed professor of surgery; Dr. Horton R. Casparis, associate in pediatrics, Johns Hopkins University Medical Department, Baltimore, has been appointed associate professor of pediatrics; Francis H. Swett, Ph.D., instructor in anatomy at Johns Hopkins Medical Department, has been appointed associate professor in anatomy, and Dr. Arthur W. Wright, City Hospital, Boston, has been appointed assistant professor of pathology.

VIRGINIA

Personal.—Dr. William F. Drewry, city manager of Petersburg, has been appointed a member of the state board of public welfare for four years.——Dr. Leta J. White, Richmond, has been appointed medical inspector with the city bureau of health, to succeed Dr. Horace O. Bell, resigned. ——Dr. George H. Thomas, Staunton, has been appointed medical examiner for the U. S. Veterans' Bureau regional office at Richmond.——Dr. Beverley R. Tucker has been elected president of the Westmoreland Club, Richmond.—— Dr. John H. Bell, Colony, has been elected superintendent of the Virginia State Epileptic Colony, Madison Heights.—— Frank W. Darling, Hampton, has been appointed a member of the state board of health, to succeed John T. Daniel of Cape Charles. The other six members of the board are physicians.

WASHINGTON

Society News.—At the recent annual dinner of the King County Medical Society, Seattle, Dr. Edgar L. Gilcreest, San Francisco, who was the guest of the evening, gave an address on the life of Sir William Osler.

Quarantine Revoked.—The smallpox quarantine at the British Columbia border, requiring that all persons entering the United States from Vancouver or its environs show a vaccination certificate not more than one year old, was revoked, April 23, the epidemic of smallpox at Vancouver having been brought under control. The quarantine had been in effect since March 17.

Personal.—Dr. Walter Kelton, Seattle, has been appointed medical supervisor in the department of labor and industry with headquarters at Olympia, to succeed Dr. Floyd A. Bird. ——Dr. John B. Anderson, formerly state commissioner of health and health officer of Spokane and recently medical director, U. S. Veterans' Hospital, Laramie, Wyo., has been appointed in charge of the Veterans' Hospital at Knoxville, Iowa.

WISCONSIN

Society News.—Dr. William Allen Pusey, Chicago, President of the American Medical Association, addressed the Medical Society of Milwaukee County, May 8, on "The Social and Economic Status of the Physician," on which occasion the society was host also to its past presidents.

Personal.—Dr. George V. I. Brown, Milwaukee, has been elected a member of the Authors' Club, London.——Dr. Errol V. Brumbaugh, health commissioner of Madison, has been appointed deputy health commissioner of Milwaukee to suc-

ceed Dr. Ira F. Thompson, who recently resigned to accept a position in Syracuse, N. Y.——Dr. William S. Miller, emeritus professor of anatomy, University of Wisconsin Medical School, Madison, recently lectured at the University of Illinois College of Medicine, Chicago, on "Problems Connected with the Study of Pulmonary Structure."

PHILIPPINE ISLANDS

Campaign for Funds for Culion.—The Secretary of War has approved a request from Dr. Leonard Wood, governor general of the islands, for permission to conduct a campaign in the United States to raise $1,000,000 for the continuation of the work at the Culion leper colony. According to the governor, nearly 500 lepers have been discharged from Culion as cured during the last four years.

Yaws Clinics.—In the yaws campaign, in Ilocos Norte, in 1922, 1,433 cases were treated; in 1923, 228 cases, and in 1924, 1,229 cases, of which 952 were cured; in the towns of San Antonio, San Felipe and San Narciso, 500 cases of yaws were treated with neo-arsphenamin in December, 1923; 896 cases were treated there in 1924, and 213 in Butuan, in September, 1924. There are yaws clinics at Bacolar, Cavite province, and Parañaque, Rizal Province.

GENERAL

Lectures on Birth Control.—The American Birth Control League is arranging a lecture trip for Dr. James F. Cooper, medical director of the league's clinical research department, who will describe the methods and results obtained in about 3,500 cases treated by the American Birth Control League, 104 Fifth Avenue, New York.

Resolution of Stomatological Association.—At a meeting of the American Stomatological Association at the New York Academy of Medicine, April 14, the following resolution was adopted:

Resolved, That all hospitals establish and maintain well equipped stomatological departments under proper professional supervision; that stomatology be taught in all medical and dental schools, undergraduate and graduate; that greater encouragement be given to stomatological research; that all public health officers be instructed as to the need of proper public education and maintenance of stomatological hygiene as an essential measure in the protection of public health, and that the medical and dental professions, public health agencies and the general public be kept informed of these resolutions through the proper channels.

A Warning.—Dr. Warren I. Titus of Brooklyn reports that an agent by the name of F. L. Cains, formerly employed by the "Nelson Loose Leaf Medicine" publishers, has taken orders for ophthalmoscopes and medical books at the Methodist Episcopal Hospital in Brooklyn, and also gave a check which was returned marked "No Funds." The Nelson Publishing Company states that he left their employ, April 1. The man is 5 feet 8 inches in height, weighs about 160 pounds, and has thick black hair parted on the side and a rather ruddy complexion.

Hygeia in the Schools.—The Board of Education, Rockford, Ill., has ordered twenty-two subscriptions to *Hygeia* for use in the public schools. The Michigan State Normal College, Ypsilanti, has listed *Hygeia* as required reading for two classes in hygiene. The high school, Wichita, Kan., has sent in 170 subscriptions for its students in physiology and hygiene. The Dodge County Medical Society, Minnesota, has placed *Hygeia* in 108 schools in that county. The Lycoming County Medical Society in Pennsylvania recently sent a copy of *Hygeia* to every teacher in the county; 561 copies were sent out. The Chicago Normal College is using *Hygeia* as supplementary reading for students in physiology. It has sent in 244 subscriptions. Dr. Ennion G. Williams, state health commissioner of Virginia, is sending *Hygeia* to seventy county and city health officers and nurses.

Memberships in National Academy of Sciences.—At the annual meeting of the National Academy of Sciences, Washington, D. C., April 29, Drs. H. Gideon Wells, professor of pathology, University of Chicago, and Florence R. Sabin, physiologist at Johns Hopkins University Medical Department, Baltimore, were elected to life membership in the academy. Dr. Sabin is the first woman to be made a member of the academy in its sixty-nine years of existence. Others elected to membership were: William D. Coolidge, Ph.D., physicist of the General Electric Company, Schenectady, N. Y., in recognition of his development of a roentgen-ray tube; W. B. Pillsbury, University of Michigan, psychologist, and Frederick A. Saunders, Ph.D., Harvard University, physicist. Prof. Neils Boehr, physicist at the University of Copenhagen, was elected a foreign member, with Hans Spremann of the University of Freiburg, Germany.

Amount of Whisky Under Government Control.—There are 20,000,000 gallons of preprohibition whisky now in storage in the United States, under government supervision; and its owners—mostly wholesale dealers who had whisky on hand when national enforcement became effective—cannot legally dispose of it except as the government directs. Under plans put into effect by Prohibition Commissioner Roy A. Haynes, the present supply of whisky is concentrated in twenty-eight warehouses, located largely in Kentucky. This stock is being consumed on medical prescriptions at the rate of about 1,750,000 gallons annually, according to Director Haynes, and will be sufficient to last only seven years. About 1928, four years before the present whisky stock is exhausted, it is expected that the government will authorize the manufacture of whisky so that 4 year old spirits may be available as medicine when the preprohibition supply shall have been exhausted.

National Tuberculosis Association. — The twenty-first annual meeting of this association will be in Minneapolis, June 15-20, at the Nicollet Hotel, preliminary meetings of state secretaries and various committees being on Monday and Tuesday, and the annual meeting proper beginning on Wednesday. The Hennepin County Tuberculosis Association, in cooperation with the Extension Division of the University of Minnesota, has arranged for a nurses' institute on tuberculosis to be held during the week, primarily for persons not already in the tuberculosis field but open to all public health, institutional and private duty nurses. A similar institute for physicians is to be held in Minneapolis the week of June 22, the clinical section of both institutes being given at Glen Lake Sanatorium.——A new directory of tuberculosis associations has just been issued and may be purchased from the office of the association in New York.——A regional institute under the auspices of the National Tuberculosis Association, in the states of Pennsylvania, New Jersey, Delaware, Maryland and the District of Columbia, was held in Philadelphia with the Pennsylvania School of Social and Health Work. Another regional institute will be held in Indianapolis, from April 29 to May 13, and a third institute will be given at Portland, Ore.

Society News.—The American Psychiatric Association will hold its eighty-first annual meeting in Richmond, Va., May 12-15, at the Jefferson Hotel, under the presidency of Dr. William A. White, Washington, D. C.——Among the addresses to be given at the twenty-fourth annual meeting of the National Association for the Study of Epilepsy, Richmond, Va., May 11-12, will be "Alkalosis and Acidosis as Causes of the Epileptic Seizure," by Rev. Thomas V. Moore, M.D., St. Anselm's Priory, Catholic University, Brookland, D. C.; "Epileptoid Tendencies in Children," Dr. Vernon C. Branham, New York; "A Comparative Study of Various Methods of the Administration of Luminal in Epilepsy," by Drs. Harold A. Patterson, Le Grand A. Damon and Paul Levi, Craig Colony, Sonyea, N. Y. There will be an informal dinner at 6:30 Monday, followed by a round table discussion.——At the annual meeting of the American Otological Association, New York, May 4-5, Dr. Thomas J. Harris, New York, was elected president; Dr. Max A. Goldstein, St. Louis, vice president, and Dr. David Harold Walker, Boston, secretary-treasurer.——The American Pharmaceutical Association has available a sum amounting to $450, which will be expended after October 1 for the encouragement of research. Investigators desiring aid in their work will communicate before July 1 with H. V. Arny, chairman, research committee, 115 West Sixty-Eighth Street, New York, giving their record and the particular line of work for which the grant is desired.

Summary of Birth, Death and Infant Mortality Rates.—The Department of Commerce announces that birth rates for 1924 were higher than for 1923 in sixteen of the twenty-five states for which figures for the two years are shown. The highest 1924 birth rate (31.9 per thousand population) was in the rural districts of North Carolina, and the lowest (14.9) in the rural districts of Montana. Death rates for 1924 were lower than for 1923 in twenty-three of twenty-nine states shown for both years. Record low rates appear for Connecticut, Delaware, Kansas, Kentucky, Maine, Massachusetts, Montana, Nebraska, Ohio, Pennsylvania, Vermont, Virginia and Wisconsin. The states having higher death rates for 1924 than for 1923 are California, Florida, Mississippi, Oregon, South Carolina and Washington. The highest 1924 death rate (22.1 per thousand population) was in the urban districts of Mississippi, and the lowest (6.5) in the rural districts of Montana. Infant mortality rates for 1924 are generally lower than those for 1923; only three of the twenty-

five states show higher rates in 1924. The highest 1924 infant mortality rate (121.6) was in the urban districts of South Carolina, and the lowest (51) in the rural districts of Nebraska. Infant mortality rates are shown for both years for forty-four cities of 100,000 population or more in 1920. For thirty-six of these cities the 1924 infant mortality rates are lower than those of the previous year. The highest 1924 rate (92) is for Trenton, N. J., and the lowest (45.3) for Seattle.

Conference on Tetra-Ethyl Gasoline.—A conference of physicians, chemists, pathologists and others to determine whether or not tetra-ethyl gasoline is a menace to public health has been called by Surgeon General Hugh S. Cumming, to meet in Washington, May 20. Invitations have been sent by the U. S. Public Health Service to university and medical school faculty members who have been investigating this problem, to physicians, officials of the Bureau of Mines, and representatives of the automobile industry. Surgeon General Cumming states that the representation at the conference will be comprehensive in order to secure complete information. Dr. Royd R. Sayers, chief surgeon of the Bureau of Mines, has stated that the report made in November, 1924, by the Bureau of Mines was a preliminary one and tended to show from tests made up to that time that "no proof had been developed of danger to public health from the use of tetra-ethyl gasoline in automobile engines." Dr. Sayers and others, who are now engaged in further studies at the Pittsburgh Laboratory of the Bureau of Mines, emphasizes that the preliminary report had been misunderstood if it was taken as proof of the harmlessness of tetra-ethyl gasoline. "On the strength of the preliminary report based on experiments with animals," Dr. Sayers states, "we saw no harmful results from dilutions such as are being marketed to automobiles; that is, exposure of test animals to exhaust left no lead deposit in these animals, so far as we could find. However, we have not yet demonstrated whether exposure of human beings under the same test conditions would give similar results." Dr. Sayers admits, however, that this gasoline even in extreme dilutions would be highly dangerous to handle. The conference will consider the question of the danger of inhaling the exhaust fumes, particularly in streets where motor cars are crowded, and the danger of lead poisoning from tetra-ethyl gasoline.

LATIN AMERICA

Greetings from Peru.—The medical students of Peru, at the celebration of the one hundredth anniversary of the Battle of Ayacucho, recently, sent greetings by a letter to physicians of the United States. The president of the Students' Union of the medical department, University of San Marcos, Lima, Peru, delivered this letter to Dr. James T. Case, professor of roentgenology, Northwestern University Medical School, Chicago, who was a delegate from the United States to the Third Pan-American Scientific Congress, held in Peru in December, 1924.

FOREIGN

Medical Concert.—An orchestra composed of physicians, and a chorus, likewise of physicians, gave a concert recently at Berlin. The program included Mendelssohn's "Walpurgisnacht," Bach's Third Concerto, and the Bach cantata, "Gott der Herr ist Sonn' und Schild." Our exchanges state that the concert was enthusiastically applauded.

Physician Elected to Spanish Academy of Letters.—The numerous literary, journalistic and scientific works of Dr. José Francos Rodriguez, in connection with his public service as mayor of Madrid, member of the council of state and life member of the senate, have received recognition in his election to the Real Academia Española, a rare distinction for a physician.

Prize for the Third Child.—The Alliance nationale pour l'accroissement de la population has offered a prize of 25,000 francs to be drawn by lot early in 1927, in some French city, among families having already two children who have a third born to them in the course of 1926. The *Presse médicale* remarks that comparison of the birth rate in 1925 and 1926 will decide whether similar prizes should be offered in every canton.

International Congress on Military Medicine.—Forty-nine nations were represented at the Third International Congress of Military Medicine and Pharmacy, which opened at the Sorbonne, Paris, April 20. Drs. Bainbridge and Hume represented the United States. After placing a wreath on the tomb of the unknown soldier, the sessions were continued at the Military Hospital in the Place du Val de Grâce. Marshal Foch and Rector Appell of the University of Paris attended the opening session, accompanied by the deans of the medical and pharmaceutical faculties.

Physicians' Art Exhibition.—The fifth exhibition of works of art by physicians and their families opened with 158 exhibitors and 517 paintings, drawings, etchings, statuettes or examples of decorative art. The water colors are numerous, among them Dr. Laignel-Lavastine's views of the Sahara. Among the statuettes is one that had been sent in by Dr. Pélissier just before his death in the *Dixmude* catastrophe. Prof. G. Hayem is the president of the committee in charge, but Dr. P. Rabier is the manager of the exhibition. The *Paris médical*, April 4, gives thirty-two illustrations of this exhibition, which is an annual medical salon at Paris.

The Charcot Centennial at Paris.—The opening meeting of this celebration of the birth of Jean Martin Charcot in 1825 will be an international neurologic reunion at the Salpêtrière, May 25, devoted to a discussion of amyotrophic lateral sclerosis. The next morning the Société de neurologie celebrates its twenty-fifth anniversary, and then adjourns to the Académie de médecine, where Prof. P. Marie will pay tribute to Charcot. In the evening the gala celebration will be held at the Sorbonne, Professor Babinski presiding. Then follow official visits to the scenes of Charcot's labors, with a closing banquet the fourth day. Dr. Souques is secretary of the committee in charge, 47, boul. de l'Hôpital.

Deaths in Other Countries

Dr. **F. Winternitz,** German University, Prague, known for his works on tuberculosis, succumbed to professional infection during research on scarlet fever.——Dr. **Fernand Schiffers,** emeritus professor of otorhinolaryngology at Liége, aged 77.——Dr. **J. M. Irizar,** emeritus professor of chemistry and pharmaceutic technic, Buenos Aires.——Dr. **L. Aubert,** Toulon, surgeon general of the French navy.

Government Services

U. S. Public Health Service

Surg. Clifford E. Waller has been directed to assume general charge of sanitary inspection of areas used for growing shellfish for interstate shipment in Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana and Texas.——Surg. Herman E. Hasseltine has been directed to proceed from Rosebank, N. Y., to Baltimore for conference regarding sanitary inspections of areas used in growing shellfish for interstate shipment.——Surg. Roscoe R. Spencer has been directed to proceed about April 15 to Hamilton, Mont., from Washington, D. C., to direct the field studies on Rocky Mountain spotted fever being conducted there, and to proceed to such other points in Montana as may be necessary in connection with this work.——Sr. Surg. George M. Magruder has been directed to make repeated trips from Seattle to Vancouver, B. C., and to other border stations in that vicinity during the present epidemic of smallpox.——Attending Specialist Martin F. Engman has been directed to proceed to East St. Louis, Ill., to examine a suspected leper.——Drs. Raymond A. Vonderlehr and Paul W. Bailey have been appointed and commissioned in the grade of assistant surgeon.——Passed Asst. Surg. Russell R. Tomlin has been relieved from duty in connection with plague suppressive measures at New Orleans and assigned to duty at the New Orleans boarding station.

New Veterans' Hospitals

The director, U. S. Veterans' Bureau, is inspecting sites offered in New York, New Jersey and Connecticut for a new 1,000-bed hospital, for which $3,000,000 has been appropriated. The bureau is also considering sites for a new hospital in Massachusetts, which will be constructed near Boston, rather than to extend the hospital facilities at Northampton. The War Department has granted to the Veterans' Bureau about 150 acres of the Fort Snelling reservation, bordering the city limits of Minneapolis, as a site for a general hospital.

Foreign Letters

LONDON

(From Our Regular Correspondent)

April 18, 1925.

The British Medical Association and Birth Control

At the council of the British Medical Association, Dr. Fothergill brought forward the motion to form a special committee to consider and report whether the association should issue a medical pronouncement to the profession and public on the question of birth control. He drew attention to a report issued by the bishop of Winchester's committee on the economic, social and ethical aspects of this problem; the medical aspect had been purposely left alone. The medical profession in America had appointed a maternal health committee, which was elaborating the medical aspect. The speaker maintained that just as the private person was entitled to expect guidance from his physician on medical questions or sociological questions with a medical side, so public bodies and other groups of the laity had a right to look to representatives of the profession for similar information and guidance. There was no body other than the British Medical Association to speak on this question in the name of the profession. Much harm was being done by unauthorized and uneducated propaganda. The profession could not leave alone a subject that involved its prestige.

Dr. Hawthorne moved an amendment that the council does not judge the announcement of any formal finding on birth control either necessary or advisable, as the subject is fully discussed in numerous books and other publications, as it is the cause of acute controversial differences between different sections of the profession, and as the functions of the British Medical Association do not include the responsibility of suggesting to members of the profession the nature of the advice they should give to their patients. He pointed out that the terms of the amendment did not involve any expression of opinion on the desirability or otherwise of birth control. The expression of opinion in the amendment was confined entirely to the question whether it was or was not advisable for the council to attach its authority to an opinion in one direction or the other. It was unnecessary and inadvisable for the association to enter on this controversy. The facts, so far as they could be determined, were already at the disposal of every member of the profession, and the question was as to the advice a physician should give his patients, it was his duty to equip himself with the information already available, if he decided to give advice at all. It was not the function of the association to set up a standard according to which physicians could advise their patients. Dr. Fothergill had spoken of collecting facts; but the facts were already published and available. The reasons why the course proposed was inadvisable were: (1) that it would seem to interfere with the general doctrine of the freedom of the individual physician and with the corresponding individual responsibility; and (2) the question was one of acute controversy, not confined to the calm of the intellectual plane but engaging emotion and prejudice. It must not be forgotten that large sections of the profession deemed the practice of birth control to be highly immoral; for example, the members of the Roman Catholic Church and of sections of the Anglican Church. The amendment was carried by a large majority.

Experimental Rickets

There has just been published by the Medical Research Council a report on experimental rickets, the effect of cereals and their interaction with other factors of diet and environment in producing rickets, by Professor Mellanby. This report contains new work, which is likely to exercise a great influence on dietetics. Mellanby has found that all cereal foods may exercise a detrimental effect on bone formation in the young, and that this effect must be combated if damage is not to result. It can be combated by a sufficient supply of: (*a*) vitamin A, i. e., the vitamin present in animal fats, such as cod liver oil, milk, meat, fats and butter (though the latter is not especially efficacious); (*b*) sunlight or "artificial sunlight," i. e., ultraviolet radiation. When the diet is deficient in vitamin A, increasing the amount of cereal brings about worse formed bones if other factors of diet and environment remain constant. Among the cereals tested by Mellanby, oatmeal had "preeminently the worst influence on bone formation," and after that came maize and barley rice and wheaten flour, the last having the least detrimental effects. The germ of wheaten flour, when added to the diet in sufficient quantities, also interfered with bone formation. Cod liver oil was found to be the most effective means of giving the vitamin A, which antagonizes the action of the cereals on bone. Very small amounts of it were sufficient. Whole milk in fairly large quantities and egg yolk were also potent antagonists, "but butter is of comparatively small value unless it is accompanied by a fairly high calcium intake." Another antagonist is light, "either by exposing the animal eating the cereals to some source of ultraviolet radiations, or by exposing the cereal itself to the same radiations." Dr. Mellanby asks, "If oatmeal is so detrimental to bone formation, how is it that fine races have been reared on diets of which this forms a large part?" He replies that the diet of these peoples also included much food rich in vitamin A, for example, milk, eggs, and fish of the fatty kind, including herring, salmon, and mackerel. He says further, "In tropical countries where cereals such as rice, maize and millet form a large part of the diet, the sunlight is no doubt also an important factor in antagonizing their detrimental influence. The worst cases of malnutrition seen in man can be easily reproduced in animals by feeding them on foodstuffs which bulk largely in the national dietary. Apart from extreme malnutrition, however, he holds that, in this country, where the average diet is either deficient in or contains a borderline quantity of vitamin A and calcium, and where sunshine is negligible, the ingestion of oatmeal during pregnancy and lactation of women and in growing children does much harm."

Boric Acid as a Food Preservative

As stated in a previous letter to THE JOURNAL, the use of boric acid as a food preservative has been condemned by a committee appointed by the government to investigate the subject. Dr. John Glaister, regius professor of forensic medicine at the University of Glasgow, has taken an opposite view, and in a letter to the *Morning Post* says that if boric acid or borates were the serious entities alleged by the committee, one would expect to find evidence of inimical effects. In order to ascertain whether harmful effects did arise from the inhalation and ingestion of boric acid or borates, he made a study of workers employed in boric factories, particularly of those exposed in the grinding and packing of fine powder of boric acid and of borates. The atmosphere of the grinding mill is more or less laden with boric acid. That acid is deposited on the hair, skin and clothing of every worker, not to speak of the quantity which they inhale and ingest by the mouth. He remained in this atmosphere for periods and found that inhalation and ingestion cannot be prevented. In one factory he examined, from all the workers, six men and four women chosen at random. The men's service in this work ranged from thirteen years downward. All the six men were in good health. The same was

true of the four women examined. To discover the amount of floating and, later, deposited boric acid in the air of the mill room and packing room in which these persons worked, he caused aluminum plates, one foot square, to be placed at different points and at different levels for a uniform period of working time. The result showed that the amount of acid deposited from each square foot of surface in a working shift of ten hours varied in the same room, and at the different levels, from 0.3058 gm. downward.

The method of preservation of food which appeals to the committee is refrigeration at or near freezing point. It has to be pointed out, however, that the danger of foods so treated will not arise at the place of export or during transit, but in the place of import. This is especially true of foods of albuminous and fatty composition, owing to the liability of decomposition after derefrigeration or thawing has taken place.

Dr. Robert Hutchison, well known for his work on dietetics, states that "with a long experience of outpatient practice at two of the leading hospitals in London, both among adults and children, I venture to say that chronic boric acid poisoning, so-called boricism, is a myth." The representatives of the cream, butter and provision trades, and of the Australian and New Zealand food exporting industries contend that, without the use of preservatives, it is absolutely impossible to supply the needs of our population, which largely depends on imported food.

PARIS

(From Our Regular Correspondent)

April 15, 1925.

Switzerland's Cancer Death Rate

The *Presse médicale* contains an interesting article by M. Ichok, professor at the Ecole des hautes études sociales, on the mortality from cancer in Switzerland. The article is based on the statistics presented by M. Carrière to the International Bureau of Public Hygiene at its session held in October, 1924. The statistics cover a period of twenty years, from 1900 to 1920. It is particularly instructive for the reason that, at the beginning of 1901, the detailed necrology reports, which, up to that time, had been used only in the large cities, were introduced throughout the whole country. These detailed necrologic reports of Switzerland are prepared with the greatest care and are therefore exceptionally reliable.

One very important fact brought out by these statistics is that during this twenty-year period the death rate for cancer has remained almost stationary, hovering around 12.1 per 10,000 inhabitants. It should be borne in mind that, at the present time, the means of cancer diagnosis being much improved, many cases are now recognized that formerly would doubtless have been confounded with other affections. The mortality rate from cancer might therefore be expected to have increased to a considerable extent; but it has not increased, and this fact in itself furnishes no small degree of comfort and satisfaction. Another important finding is derived from the figures published by M. Carrière; namely, that patients with cancer in Switzerland die at a later age than formerly. For the various age groups under 69 the death rate had diminished, during the ten-year period covered, to a considerable extent. While the mortality for the population as a whole remained fixed, the proportion of deaths from cancer occurring beyond the age of 69 had sensibly increased.

The mortality tables viewed from the standpoint of the localization of the various neoplasms furnish interesting information. The first surprising thing noted is the exceedingly high percentage of deaths due to cancer of the digestive tract. For the period from 1900 to 1920, the deaths from cancer of the tongue, the esophagus, the stomach, the intestine, the liver, the bile ducts and the pancreas occurred at the rate of 8.4 per 10,000 inhabitants and constituted 75 per cent. of the general mortality from cancer. The mortality from neoplasms of the digestive tract shows only very slight variations during the twenty-year period. The assertion that the number of cancers of the digestive tract is increasing from year to year has therefore no basis in fact. The frequent attempts to incriminate this or that article of modern diet in explanation of a supposed increase of cancers of the digestive tract are consequently beside the mark, since no such increase can be proved.

While cancer of the digestive organs has, during this period, remained practically stationary, cancer of the other organs seems to have increased, and especially cancer of the breast demands the greatest watchfulness. Cancers of the breast and of the uterus represent 27 per cent. of the cancer mortality in the female sex. The mortality from cancer of the uterus has not changed materially (1.74 per 10,000 inhabitants), but the figures for cancer of the breast reveal considerable increase in the mortality, which has risen from 1.27 per 10,000 inhabitants for the 1900-1905 period to 1.70 for the period from 1915 to 1920.

This increase of the mortality rate for cancer of the breast has caused the societies of Switzerland that are engaged in the anticancer crusade to open a supplementary inquiry in order to secure more detailed information on the prevalence of this type of cancer. The Association suisse pour la lutte contre le cancer has sent out to physicians a special circular in which it solicits their cooperation in collecting all statistical information possible that will throw light on the history of cancer of the breast. The points they were asked to note more particularly are the following: influence of lactation, inflammatory affections and previous benign tumors (mastitis, fibro-adenoma, cysts); influence of operative treatment on the general prognosis and on the appearance of metastases; the value of roentgen-ray and of radioactive treatment, and so forth. All the physicians who signed necrologic reports giving cancer of the breast as the cause of death will receive a supplementary questionnaire. They are requested to give information also, on special blanks, on the cases of cancer of the breast that have ended in recovery and those that are in the process of treatment.

The surgical services and the anatomicopathologic institutes will also be asked to supplement the information they have already given, in order that the rich material that they have access to may be made to yield all the information that it contains.

Switzerland, with its accurate and extensive statistics and its exemplary methods of recording data, may serve as a model for other countries. If it has the sad record of being the country with possibly the highest mortality from cancer, it deserves at least a high place among the nations that are combating the disease with vigor.

Exeresis of the Phrenic Nerve in the Treatment of Pulmonary Tuberculosis

Phrenicotomy, or, more accurately, the exeresis of the phrenic nerve, which has been much practiced abroad and especially in German-speaking countries, has been rather neglected in France. Recently, however, communications by Maurer and Rolland and Valtis, presented simultaneously to various medical and surgical societies, have called the attention of French phthisiologists to this operative procedure, which may render valuable service in the treatment of unilateral tuberculosis. Also an article by Piguet, Giraud and Perret has opened up the question anew. The purpose

of the removal of the phrenic nerve is to permit the paralyzed diaphragm to diminish the capacity of the corresponding hemithorax and to facilitate the immobilization and the collapse of the base of the lung. It acts thus as a partial thoracoplasty. In order that the results may be favorable, the lesions must be located as near as possible to the base of the lung, and they must have a natural tendency toward cicatricial retraction, which would merely be facilitated and completed by the surgical intervention.

It is exceptional for phrenicotomy to be performed in the beginning, even when the indications are the most favorable. Almost always this procedure is resorted to only because pneumothorax, owing to pleural adhesions, is not technically feasible. In establishing the indications for phrenicotomy, it is not quite so necessary that the lesions be restricted to one lung as it is in artificial pneumothorax. However, when it is seen that the opposite lung is not intact, the physician should assure himself by successive clinical and roentgenologic examinations that the lesions are stabilized or at least are not evolving rapidly. Furthermore, the removal of the phrenic nerve is not to be regarded solely as a procedure supplementary to pneumothorax. It may be employed concurrently with pneumothorax to complete its effect, especially if pneumothorax does not act sufficiently on the lesions at the base of the lung, which is widely adherent to the dome of the diaphragm. It can be called into service likewise to take the place of pneumothorax that has to be abandoned owing to adhesions that progressively limit its extent. Thoracoplasty may be supplemented by the removal of the phrenic nerve. Some authors systematically combine phrenicotomy and thoracoplasty, the two operations being either performed simultaneously or phrenicotomy being done separately in a first stage. Phrenicotomy is a relatively harmless intervention but will not fulfil its rôle unless the most favorable indications are present. But since it involves so little risk to the patient, one is justified in performing it whenever it is thought that it will be useful.

The operative technic is simple but demands an accurate knowledge of the region to be operated on. The only operative difficulties relate to the location of the chief blood vessels. The skin incision is horizontal and low, being just above the posterior margin of the clavicle, straddling the posterior border of the clavicular head of the sternomastoid muscle. The authors seem to agree as to the necessity of operating under local anesthesia. They seem likewise to be agreed that a simple division of the phrenic nerve does not suffice. A veritable "phrenicectomy" must be performed—as complete a removal as possible of the whole mediastinal portion of the nerve. That can be easily accomplished by seizing the peripheral end of the divided nerve with the forceps and slowly winding it about the jaws. The nerve can be thus extirpated for a distance of at least 15 cm. This radical extirpation is necessary not only to avoid the risk of spontaneous regeneration but also to destroy anastomoses with the adjacent nerves (the subclavius nerve and the great sympathetic nerve), and especially anastomoses with an accessory phrenic nerve springing from the subclavius nerve or directly from the brachial plexus and uniting with the trunk of the phrenic nerve over the hilum of the lung. It is to these anastomoses, not recognized or not destroyed systematically, that certain operative failures are due. In favorable cases, the rise of the dome of the diaphragm is considerable, reducing the capacity of the hemithorax concerned by one third or one half. The rise of the paralyzed diaphragm is, moreover, progressive and is accomplished slowly. Recently, E. Rist reported a remarkable case of juxtadiaphragmatic bronchial dilatation, in which phrenicotomy effected a complete cure. If it is a question of tuberculous lesions, even after very favorable immediate results, judgment as to the final outcome must be reserved; phrenicotomy can hardly be expected to exert the same durable effect as pneumothorax or thoracoplasty; but the authors hold that French phthisiologists will do well to familiarize themselves with this method, which is absolutely harmless and which will prove of benefit to patients in the cases in which it is impossible to do more or better.

ITALY

(From Our Regular Correspondent)

April 7, 1925.

The Congress of Military Medicine and Pharmacy

The Italian delegation to the third International Congress of Military Medicine and Pharmacy, which will be held in Paris from April 20 to 25, will be constituted as follows: Dr. Francesco Capo Della Valle, director general of the Italian army sanitary service, chairman; Col. Filippo Suzzi, head of the chemicopharmaceutic service of the Italian army medical corps; Prof. Filippo Caccia, member of the permanent committee of the International Congress of Military Medicine and Pharmacy, and Dr. Duilio Balestra, of the ministry of war and the bureau of the army sanitary service. Also many other Italian medical and pharmaceutic officials, some in active service and others on the retired list or connected with the Italian Red Cross Society, have expressed their intention of attending the congress.

Monument to Fallen Heroes of the Army Medical Corps

A monument to the members of the army medical corps who lost their lives in the Great War was recently unveiled at Florence in the presence of the king and queen of Italy, undersecretary of war, and numerous other high officials. The dedicatory ceremonies assumed the importance of a national celebration, for at Florence there were convened from all parts of Italy thousands of physicians who had served in the Great War, and many representatives of the families of the heroes they had gathered to honor. A grand procession filed through the streets of the city, at the head of which was an artistic symbolic chariot, laden with the palatine laurels with which Rome was honoring the memory of the 400 Italian physicians who sacrificed their lives that Italy might live. The Duchess of Aosta took part in the procession at the head of a resplendent group of women of the Italian Red Cross Society. The official orator of the occasion was the Honorable Del Croix, who is known as the *Grande Mutilato*, owing to the fact that he has lost both hands through amputation and also the sight of both eyes. The monument is on the grounds of the Scuola di sanità militare, and is the magnificent work of the artist Arrigo Minerbi.

The Cause of Napoleon's Death

Professor De Paoli has been making extensive researches into the cause and circumstances of the death of Napoleon I, on the necropsy of his remains, on the previous hereditary diseases of the Bonaparte family, and on the condition of Napoleon's health during the years of his greatest activity and renown. According to his findings, which have not only an historical but also a scientific value, the necropsy would seem to justify the conclusion that the cause of death was a cancer of the stomach, and that tuberculosis constituted a contributory cause. Furthermore, De Paoli's researches exonerate Napoleon's physicians, who were wrongfully accused of incompetence and of neglect in the treatment of their distinguished patient, whereas, on the contrary, they afforded him all possible medical aid. History relates many additional proofs of their unswerving loyalty to their chief, Napoleon.

BERLIN

(From Our Regular Correspondent)

April 4, 1925.

The Tuberculosis Problem

The Deutsche Gesellschaft für Kinderheilkunde (pediatric society) selected the tuberculosis problem as the main topic for discussion at its last session. Professor Bessau of Leipzig discussed the immunobiologic aspects of tuberculosis. There is, he pointed out, such a thing as specific immunity to tuberculosis. It is not based on antibodies but presupposes the action of the same mechanisms that determine hypersusceptibility. The hypersusceptibility to tuberculin is linked with specific tissue (so-called tuberculocytes). The local reaction signifies the capacity, under the stimulative action of tuberculin, to form new specific tissue, which probably has its origin in the cellular apparatus of the vessel walls. Hypersusceptibility cannot be interpreted as an anaphylactic process; the transmission of hypersusceptibility by the transplantation of tuberculous tissue is not possible, perhaps for the reason that it is linked with the living tuberculocytes. Specific immunity to tuberculosis is also linked with the living tuberculocytes. The degree of specific immunity depends on the capacity to form new specific tissue. Killed tubercle bacilli and not tuberculin are used to change the reactivity of the tissues. In the guinea-pig it is possible in this manner to develop tuberculosis of the omentum, which gives the animal a specific immunity to tuberculosis, and thus may open the way for a specific tuberculin inoculation. The general susceptibility to tuberculin as a sign of tuberculous infection is marked in severe processes, but slight in mild infections. Marked local reaction is found usually in favorable affections, and a bad local reaction in unfavorable conditions. Local reactions and general reactions do not run parallel in their manifestations; their diagnostic and prognostic significance must be interpreted with caution. The susceptibility of the active processes cannot ordinarily be accentuated; but the susceptibility of the inactive processes can be increased. The focal reactions can be accentuated by tuberculin; stronger reactions are unfavorable, but tuberculosis therapy without any focal reaction whatever is purposeless. The aim of the treatment must be to lower the general susceptibility while the local susceptibility is preserved. For that purpose the mildest focal reactions are suitable, which may be brought about by intravenous injections of tuberculin (dilution 1:1,000,000,000). The active substance is contained in all tuberculins. The combination of tuberculin therapy with iodin appears to have particular value when one is endeavoring to reduce the general susceptibility. A rapid cure for tuberculosis—for example, through chemotherapeutic methods—is not likely to be discovered. General measures, however, may increase the "mesenchymal capacity."

Professor Koch of Freiburg discussed the pathologic anatomy of tuberculosis. The seat and extent of the primary focus, which can seldom be delineated by clinical and roentgenologic means, were described. From the primary focus the affection spreads further, both lungs usually becoming involved; sometimes in the form of miliary tuberculosis, which is curable if the meninges are not affected, this being the case in almost 100 per cent. of the children who die from tuberculosis. Tertiary tuberculosis of early childhood is not identical with that occurring in adults; exudative processes predominate. Cavities often develop through caseation and the breaking down of the area in which the first manifestation of the disease appeared. Swollen lymphatic glands are absent in the third stage. Only in the rare proliferative tuberculosis of children do swellings of the lymph nodes again appear.

The difficulties that lie in the way of a study of tuberculin reactions may perhaps be best overcome, Professor Moro of Heidelberg stated, if one at first applies oneself to a study of defense reactions, which (for example, in trichophytosis) offer many far-reaching analogies to sensitiveness to tuberculin. Györgi of Heidelberg called attention to aspecific factors which may affect the results of the tuberculin reaction (weakening effects of fever, pregnancy, cachexia and syphilis). A parallelism exists between the protein reactions of the blood and the quotient cholesterin/lipoid-phosphorus. It has been found that the tuberculin reaction can be accentuated by the feeding of eggs, and that skin reactions with a mixture of tuberculin and phosphatids are more marked. Aschenheim of Remscheid stated that he was able to show by statistics that intrafamilial infection with tuberculosis results more frequently in manifest tuberculosis than extrafamilial infection. Professor Czickeli of Graz recommended as a usable diagnostic tuberculin reaction the cutireaction with inspissated tuberculin, after washing the skin over the sternum with ether. Langer of Charlottenburg was able, through intracutaneous injection of young strains of killed tubercle bacilli, to sensitize healthy guinea-pigs to tuberculin, after an incubation period of from nine to ten days. The sensitiveness persisted after the primary focus had healed, and the animals were immune to subsequent infections. This protective inoculation against tuberculosis was successful also with children; after the lapse of six weeks the inoculated children gave a distinct tuberculin reaction. Ossoinig of Graz found in the tuberculin reaction a definite parallelism between the development of the strength of the first injection and the development of the negative phase. During the discussion that followed the presentation of the papers and addresses, doubts were expressed as to the possibility of immunizing by means of killed tubercle bacilli (Moro, Selter), but the possibility of miliary tuberculosis being cured was granted by Lust. Moll accepted the possibility of a placental infection; in fact, he would not regard it as a rare event.

Professor Engel of Dortmund treated the clinical aspects of tuberculosis in children. The tuberculin reaction of a child shows that an infection has taken place. From the anatomic findings of changes in the lungs and in the regional glands, a conclusion is reached as to whether or not a primary affection exists at these points; but very slight, scarcely demonstrable tuberculous changes in other places make the body sensitive to tuberculin. The degree of sensitiveness to tuberculin is approximately parallel with the extent and the condition of the tuberculous tissue. In the cases of occult tuberculosis it is a matter of pathologic changes of slight extent (micro-infection), whereas the pathologic processes of wide extent are referred to as macro-infections. The conditions that determine micro-infection and macro-infection in the child are not fully understood as yet. The action of an infection is greater, the younger the child. The majority of infections, however, set up no permanent action. Thus, on reexamination of children who became infected early, we often find only small calcified foci, which point to a macro-infection. Only the infections of considerable extent, the macro-infections, have special clinical importance. Miliary tuberculosis develops usually from fresh severe infections. Also in tuberculous meningitis old foci are seldom found. The extent of the primary focus appears to be an important factor in determining the genesis of these extensive processes. The curve representing the case mortality of tuberculous meningitis with its highest peak in the 2-3 age group runs parallel with the curve of new infections. The younger the child, the more likely it is for an infection to lead to tuberculous meningitis. But also macro-infections in very early childhood

may heal. Micro-infections will often escape clinical diagnosis. Macro-infections are the main symptoms of tuberculosis of the bronchial glands. A bad state of nutrition and fever are not necessarily due to occult tuberculosis. A certain amount of thermolability may be present in children. Fever may not develop in tuberculosis until there is a secondary infection or decomposition of the tissues. The tuberculin reaction, the Wildbolz test and the Wassermann tuberculosis test reveal nothing concerning the anatomic and biologic condition of the process. Also the value of the rate of sedimentation of the erythrocytes and of the lipase content of the blood serum is very uncertain. There is as yet no absolutely certain local symptom for the diagnosis of tuberculosis of the bronchial glands. The results of roentgenographic diagnosis should be viewed with great caution and doubt. The physical demonstration of the micro-infection is especially difficult. Age and the nature of the primary complex are of importance for the secondary infections. Paratuberculous pneumonia is closely connected with the primary complex in young children; metastases of the bones and joints, if they occur, usually follow fresh and extensive infections. A tuberculous infection, doubtless depending on whether it is a micro-infection or a macro-infection, may lead to a specific but apparently also to a nonspecific reactivity of all the tissues. That is shown, for example, in their behavior toward diphtheria toxin, in scrofula and probably also in pleuritis, which is not to be interpreted as a tuberculous affection of the pleura, but only as a changed reactivity of the pleura and an abnormal reaction to aspecific stimulation.

Berlin's Hygienic Exhibit

From March 1 to 8 there was held in the building of the Funk-Industrie in Berlin a hygienic exhibit that was organized by the Berliner Messeamt with the cooperation of the Verein zur Förderung der Messen der medizinischen und hygienischen Industrie. The most important part of the exhibit was furnished by the central public health service of the city of Berlin, under the caption, "The Modern Hospital." It was, of course, impossible to erect a complete hospital. All that could be done was to endeavor to give a graphic idea of the most important innovations in the various special fields of the several departments of a modern hospital. The visitor entered "the hospital" through a cozily furnished waiting room and passed first into the station for emergency cases, which embodied the thought that in a modernly equipped hospital there must be a special room for persons who require only first aid. Then came the "surgical department," where, through the cooperation of the surgical supply houses of Berlin, all the newest types of equipment were displayed. Not only special types of strictly operative equipment were shown but also the many little accessories that contribute so much to the comfort of the patient and to the final operative results. In the gynecologic department were the newest types of operating tables and illumination systems; in the obstetric department, a complete instrumentarium for obstetric diagnosis and operations was presented. Next came the roentgenologic department, which in its arrangements constituted a reproduction of the roentgenologic equipment of the Moabit Hospital. Also the department of internal medicine acquainted the visitor with all the instruments and apparatus that mark the recent progress of medical science. In the department for infectious diseases were exhibited the newest instruments for taking blood samples of patients, and there were illustrations and wax molds of an informational nature. The pediatric department contained a miniature but complete *Milchküche*. Then came the special departments (eye, ear and dermatology, including venereal diseases) and the dental department with the many new instruments and new types of apparatus. Mechanotherapy and hydrotherapy were represented by an extensive display. A model kitchen and a model laundry showed the modern machines for the preparation of food and for all forms of laundry work. Even a dissecting room with many innovations in this field was shown. The Bacteriologic and Hygienic Institute of the city of Berlin had an exhibit of all the apparatus used in its special field. Also a chemical and physiologic laboratory was equipped in complete fashion. Of great interest was a display of statistics on the achievements of the Berlin municipal hospitals, showing the progress in public health work in Berlin since 1900. At the last was an exhibit setting forth the progress in long distance telephony; also in the radio broadcasting services, which promise to become of great importance to hospitals.

PRAGUE

(From Our Regular Correspondent)

April 3, 1925.

Death of Professor Janovsky

Czech medicine has suffered a heavy loss through the death of Prof. Vitezslav Janovsky, who died in Prague, March 19. Janovsky should be called the founder of Czech dermatology. Born in Prague, July 2, 1847, he obtained his medical degree at the Prague medical faculty. After graduation, he specialized in surgery and dermatology. In 1872 he joined the teaching staff of the university as lecturer on history of medicine and dermatology. In 1882 he became assistant professor of dermatology and chief of the dermatologic clinic. At the time when he started his professional career, dermatology was a very much neglected branch of medicine. Janovsky used to narrate to his friends about the lectures of his teacher of dermatology, who had his whole course in dermatology written on two sheets of paper. Janovsky succeeded in building up a modern department of dermatology in the medical school, which was famous through its pursuit of modern ideas in medicine. Having an exceptional knowledge of modern languages, he was well known in the dermatologic scientific circles of the whole world. He visited probably all the dermatologic international congresses that were held during the time of his professional activity. He was unique in his knowledge of scientific literature, and he fascinated through his readiness in quoting authors on most diverse subjects in scientific medicine. He knew practically everybody who has contributed to the science of dermatology. He published a great number of scientific papers, the most famous being the description of acanthosis nigricans, which bears his name as its discoverer. From a long series of his publications should be quoted the papers on neurotic gangrene, kraurosis vulvae, menstrual exanthems and hyperkeratosis. He was associate editor of the *Archiv für Dermatologie und Syphilis*, and contributed to most of the dermatologic periodicals of the world. He summarized his long experience in his voluminous treatise on venereal diseases, which appeared in two editions. Only recently he published a small booklet for practitioners on the modern treatment of venereal diseases, in which he described the recent advances in venerology. He was a devoted teacher and lecturer. Being a born orator, he loved to develop before his audience a most complete picture of the case demonstrated. When he retired in 1918 from his position as the chief of the dermatologic department, he did not sever his connections with the department he had built up. He participated in the recent developments of Czech dermatology, and was the first president of the Czech Dermatologic Society. The foundation of the Czech periodical *Ceska Dermatologie* resulted also from his initiative. He was a member of the executive committee of the Czech

Association for Combating Venereal Diseases. Besides all these functions, he participated actively in many private undertakings. In spite of his manifold professional activities, he was a well known supporter of the fine arts and of music.

Quackery and Licensure

Until recently, the Czechoslovak Republic has been spared the wave of quackery that is causing so much concern, especially in the Anglo-Saxon world. Lately public opinion was aroused by the rumors about a wonder healer who was reported to have cured thousands of people. The man, who is a well known publisher in Prague, could not be prosecuted, because, under the present law, only those could be prosecuted for quackery who could be proved to have practiced healing repeatedly and for gainful purposes, without having obtained the medical degree in some recognized medical school. At first the public was apparently on the side of the healer, because the lectures which he held had a large attendance. Several lectures were then given by medical authorities, explaining to the public the dangers and fallacies of similar healers. These lectures have apparently been successful. The answer of the rector of the university, Professor Dr. Kukula, to the assertions of the healer, which appeared in the daily press, have apparently strongly influenced the public. Fortunately the whole episode seems to have ended in the funny papers and cabarets, where the subject of the healer has become quite popular. One permanent result of the affair will be the enactment of a new law on medical practice which prohibits all methods of healing, without regard to financial reward, to all who have not qualified properly for the practice of medicine.

The League Against Tuberculosis

With the seventy-fifth birthday of the president of the Czechoslovak Republic, Dr. Thomas G. Masaryk, the league against tuberculosis, which bears his name, celebrated the fifth anniversary of its existence. The record of accomplishments which the league outlined in the last issue of its monthly bulletin is notable. At the present time the league has 193 local branches, throughout the provinces of the Czechoslovak Republic. Most of the branches are in Bohemia (119), but recent years have witnessed the growth of local branches in other provinces. With the local chapters there are around 30,000 members of the league.

The activities of the league are mainly threefold: 1. Popular education on tuberculosis and allied questions. Attention is given also to the education of physicians, and the tuberculosis institute which is being held in Prague just now, in cooperation with the Association for the Study of Tuberculosis, has become an annual affair. 2. Creation of tuberculosis dispensaries. The plan of the league is to have a dispensary operating in every place where there is a local branch of the league. At present there are eighty dispensaries working under the auspices of the league. These dispensaries are run chiefly as diagnostic and preventive institutions and avoid the treatment of patients. While it was difficult at the beginning to live up to this scheme owing to the therapeutic tendencies of the physicians in charge of the dispensaries, the situation has improved considerably, and as a result of this policy the dispensaries are receiving stronger support from the medical profession as a whole. 3. Treatment of the tuberculous in sanatoriums. While it is felt that this is not the proper function of the league, it seems inevitable at present, because there is no other agency that would assume this burden.

The remarkable development of the league in recent years is to be credited to the initiative of the board of directors, the members of which are representatives of the best workers in the field of public health, to the activity of the executive officers, and to the support the government has afforded the league. The seventy-fifth birthday of the president of the republic was celebrated by another event in the field of medicine. For the commemoration of the day, parliament voted a sum of 8,000,000 crowns for the erection of a modern hospital, which will bear the name of the president. This will help the hospital situation in Prague, which has become quite critical in recent years. Under the new plan, the military hospital, which is near the hospital of the medical school, will be vacated and used for the medical school, and a new hospital will be built for the army. Besides that, Prague will erect two more pavilions on the grounds that were acquired by the city for the central city hospital many years ago, and where up to the present time only pavilions for infectious diseases have been constructed. One pavilion for the medical department and one for the surgical department will be constructed.

Birth Rates and Death Rates

The state statistical institute has recently published population figures for the year 1923, which reveal the development of the population in the Czechoslovak Republic after the war. The province of Bohemia shows figures that are comparatively favorable. The birth rate, which was 17.74 in 1919, had risen to 23.94 in 1921, and has declined since to 22.47 in 1923. The general death rate, which was 17.72 in 1919, has declined rapidly, and was 13.87 in 1923. Moravia shows almost the same figures for the death rate, but the figures for the birth rate are higher, in 1923 being 25.17. Silesia does not differ materially in the death rate, but has a higher birth rate, 28.49 for 1923. Slovakia has a very different situation. The birth rate of the province is high, attaining 38.22 in 1921, and declining slowly to 36.02 in 1923. The death rate is also high, and it is interesting to note that the death rate continued to rise after the close of the World War, when it was 19.56. The peak of the death rate was attained in 1921, with the peak in the birth rate. The death rate in that year attained a height of 21.31. This was apparently due to the excessively high birth rate because, with the declining birth rate in the following years, the death rate also declined, going down to 17.59 in 1923. The same picture as that in Slovakia presents itself in Carpathian Russia, but in an exaggerated form. The highest birth rate in Carpathian Russia was attained in 1922, when it reached 46.68. In the following year a slight decline followed, to 43.44. The death rate in Carpathian Russia is also high, and touched the highest point in 1920, when it went up to 32.07. Since then there has been a steady decline, which attained 20.54 in 1923. The figures for the whole Czechoslovak Republic show a parallel trend to those for the different provinces. The birth rate went up to 29.02 in 1921, and declined to 27.26 in 1923 for the country as a whole. The general death rate was highest in 1920, attaining 1806, and going down to 15.01 in 1923.

Marriages

William Howard Thayer, Bethlehem, Pa., to Miss Dorothy L. Root of Columbus, Ohio, at Lynch, Ky., April 25.

Walter P. Whitted, Eureka, N. C., to Miss Clara Maie Purcell of Haw River, April 10.

Carl R. Moeckel, Lawrence, Mass., to Miss Sidella Grace Fish of Boston, March 22.

J. Cohen Chandler, Tampa, Fla., to Mrs. C. C. Parsons of Atlanta, Ga., April 5.

Roy J. Crary to Miss Ruth Kelly, both of Iowa City, February 3.

Deaths

Samuel Marmaduke Dinwiddie Clark ✠ New Orleans; Medical Department of the Tulane University of Louisiana, New Orleans, 1900; formerly professor of gynecology and clinical obstetrics at his alma mater; member of the American Gynecological Association and the Southern Surgical Association; served during the World War; on the staffs of the Touro Infirmary and the Charity Hospital; aged 49; died, April 26.

Leroy Broun ✠ New York; University of Nashville (Tenn.) Medical Department, 1887; formerly clinical instructor of gynecology, Cornell University Medical College, New York; member of the American Gynecological Society and president of the New York Obstetrical Society; on the staff of the Manhattan Hospital and for thirty-six years on the staff of the Woman's Hospital; aged 64; died, April 22.

Walter H. Allport, Chicago; Chicago Medical College, 1887; member of the Chicago Surgical Society; formerly on the staffs of the Alexian Brothers', Cook County and St. Luke's hospitals; at one time surgeon to the Illinois Central Railroad; served during the World War; aged 62; died, April 21, at Marseilles, France.

Calvin E. Nichols, Troy, N. Y.; University of Vermont College of Medicine, Burlington, 1868; Bellevue Hospital Medical College, 1873; member of the Medical Society of the State of New York; for eighteen years health officer of Troy; aged 80; died, April 23, at Tannersville.

Frank Jacobi ✠ Toledo, Ohio; University of Michigan Medical School, Ann Arbor, 1895; member of the American Academy of Ophthalmology and Oto-Laryngology; on the staff of St. Vincent's Hospital, where he died, April 2, of cerebral hemorrhage; aged 52.

Ernest Lorne Bell ✠ Plymouth, N. H.; Dartmouth Medical School, Hanover, 1894; served in the M. C., U. S. Army, in France, during the World War; formerly state senator; aged 54; died, April 19, at his summer camp at Newfound Lake, of angina pectoris.

Oscar Winborne Nettles ✠ Captain, M. C., U. S. Army, Denver; Medical College of the State of South Carolina, Charleston, 1908; served during the World War; aged 38; died, April 2, at the Fitzsimons, Colo., General Hospital, of pulmonary tuberculosis.

Samuel L. Pickett, Bayfield, Wis.; College of Physicians and Surgeons Keokuk, Iowa, 1888; member of the State Medical Society of Wisconsin; physician to the La Pointe Agency, Indian Service; aged 63; died suddenly, March 30, of heart disease.

Charles Evans Catchings, Woodville, Miss.; Memphis (Tenn.) Hospital Medical College, 1894; member of the Mississippi State Medical Association; formerly member of the city council and city physician; aged 56; died, April 4, of pneumonia.

Waid James Stone, Healdsburg, Calif.; University of California Medical School, San Francisco, 1906; aged 44; died, April 16, at the University of California Hospital, San Francisco, of hemorrhage, postoperative shock and cirrhosis of the liver.

Francis Steven Cook, Brentwood, Calif.; University of California Medical School, San Francisco, 1887; member of the California Medical Association; served during the World War; aged 59; died, February 28, at Hollywood, of chronic nephritis.

Noah Bates, Flint, Mich.; University of Michigan Medical School, Ann Arbor, 1866; member of the Michigan State Medical Society; secretary and member of the board of health of Flint for forty years; aged 87; died, April 21, of senility.

William M. Eddleman, Anna, Ill.; University of Tennessee College of Medicine, Memphis, 1882; member of the Illinois State Medical Society; formerly city health officer and mayor; aged 67; died, April 1, of aneurysm of the abdominal aorta.

James Howard Gerald, Smithdale, Miss.; Memphis (Tenn.) Hospital Medical College, 1909; member of the Mississippi State Medical Association; aged 40; died, March 23, at the Touro Infirmary, New Orleans, of acute cholecystitis.

William J. McGuire ✠ Wilkes-Barre, Pa.; Jefferson Medical College of Philadelphia, 1908; on the staff of the Mercy Hospital; aged 41; died, April 10, at the Wyoming Valley Homeopathic Hospital, of myocarditis and nephritis.

Alexander Newlands Hayes, Sarnia, Ont., Canada; University of Toronto Faculty of Medicine, 1890; University of Western Ontario Medical School, 1890; aged 63; died, March 28, at the Harper Hospital, Detroit.

Flavius J. Baker, Milwaukee; Medical Department of the University of the City of New York, 1867; formerly health officer of Lockport, N. Y.; aged 81; died, April 14, at Montour Falls, N. Y., following a long illness.

Joseph Shakespeare Moulton ✠ Texarkana, Texas; Tulane University of Louisiana School of Medicine, New Orleans, 1913; member of the Radiological Society of North America; aged 32; was shot and killed, April 14.

Arthur David Burnett ✠ Greenwood, S. C.; Medical College of the State of South Carolina, Charleston, 1917; served during the World War; for four years city health officer; aged 34; died, April 15, of pneumonia.

Moses Alexander Goldman, New York; University and Bellevue Hospital Medical College, New York, 1924; intern at the Fordham Hospital; aged 25; died, April 18, at Mount Sinai Hospital, following an operation.

Joseph Franklin Owens, Plainview, Texas; Georgia College of Eclectic Medicine and Surgery, Atlanta, 1890; member of the State Medical Association of Texas; aged 56; died, April 8, at a local hospital, of toxemia.

Charles F. Benson, Jr., Atlanta, Ga.; Atlanta Medical College, 1882; member of the Medical Association of Georgia; formerly president of the city board of health; aged 62; died, April 11, of injuries received in a fall.

Mahlon T. Milnor, Warrensville, Pa.; Jefferson Medical College of Philadelphia, 1883; member of the Medical Society of the State of Pennsylvania; aged 69; died, April 15, at the Williamsport (Pa.) Private Hospital.

Henry Edgar Whitford, Ozona, Fla.; Bennett Medical College, Chicago, 1881; member of the Florida Medical Association; formerly professor of venereal and skin diseases at his alma mater; aged 65; died, April 11.

Edward Aloysius McLaine, Scranton, Pa.; Medico-Chirurgical College of Philadelphia, 1909; member of the Medical Society of the State of Pennsylvania; aged 44; died, April 14, at Asheville, N. C.

Thomas Arthur Jones, North, S. C.; University of Virginia Department of Medicine, Charlottesville, 1874; member of the South Carolina Medical Association; formerly mayor of North; aged 73; died, April 5.

William M. Young ✠ Dallas, Texas; Vanderbilt University Medical Department, Nashville, Tenn., 1894; past president of the Dallas County Medical Society; aged 54; died, March 28, at a local hospital.

Frederick Charles Merritt, Sayville, N. Y.; Trinity Medical College, Toronto, Ont., Canada, 1891; member of the Medical Society of the State of New York; aged 56; died, April 7, of heart disease.

Albert Cullen Fox, Lincolnton, N. C.; Medical Department of the University of the City of New York, 1873; member of the Medical Society of Virginia; aged 76; died, April 7, following a long illness.

John Powell Miller, Erick, Okla.; Vanderbilt University Medical Department, Nashville, Tenn., 1882; member of the Oklahoma State Medical Association; aged 72; died, recently, of cerebral hemorrhage.

Emanuel Reinhardt, New York; Columbia University College of Physicians and Surgeons, New York, 1901; formerly on the staff of Mount Sinai Hospital; aged 46; died, April 10, of arteriosclerosis.

Francis Frederick Shilling, Nashville, Mich.; University of Michigan Medical School, Ann Arbor, 1901; member of the Michigan State Medical Society; aged 62; died, April 14, of heart disease.

Andrew S. Reisor, Shreveport, La.; Kentucky School of Medicine, Louisville, 1890; formerly president of the city board of health and member of the city council; aged 76; died, April 21.

Oscar Pardo, Rochester, N. Y.; Medical School of Harvard University, Boston, 1906; aged 54; died, April 16, at Chatou, near Paris, France, of a self-inflicted wound while suffering from angina pectoris.

John M. Gentry, Stonyfork, Pa.; College of Physicians and Surgeons, Baltimore, 1884; member of the Medical Society of the State of Pennsylvania; Confederate veteran; aged 82; died, April 13.

John O. Simmons, North Charlotte, N. C.; Chattanooga (Tenn.) Medical College, 1904; member of the Medical Society of the State of North Carolina; aged 59; died suddenly, April 13.

James D. Hart, Vienna, Ill.; College of Physicians and Surgeons, Keokuk, Iowa, 1885; St. Louis College of Physicians and Surgeons, 1889; formerly a druggist; aged 66; died, April 7.

Thomas Luther Wilburn, Kilmichael, Miss.; University of Nashville (Tenn.) Medical Department, 1874; Vanderbilt University Medical Department, Nashville, 1875; aged 74; died, April 6.

Howard H. Hawxhurst, Washington, D. C.; New York Homeopathic Medical College and Hospital, New York, 1891; aged 59; died, April 8, of liver abscess, following an infection of the knee.

George Washington Markley, Belvidere, Ill.; Illinois Medical College, Chicago, 1904; member of the Illinois State Medical Society; aged 55; died, April 18, of cerebral hemorrhage.

Joseph Furniss Coleman, Deertrail, Colo.; Kentucky School of Medicine, Louisville, 1884; formerly health officer of Montrose County and county physician; aged 68; died, February 24.

E. C. Sweet, Chicago; Hahnemann Medical College and Hospital, Chicago, 1884; formerly on the staff of the Masonic Orphans' Home; aged 79; died suddenly, April 19, of heart disease.

William Henry Cooper, Oakmont, Pa.; Hahnemann Medical College of Philadelphia, 1894; formerly member and secretary of the city board of health; aged 53; died, April 13.

Barnie Langford McDonald ✠ New River, Tenn.; Lincoln Memorial University Medical Department, Knoxville, 1916; served during the World War; aged 45; died, March 15.

William H. Swearingen, Smiths Grove, Ky.; University of Louisville School of Medicine, 1888; aged 78; died, April 17, at the Beechurst Sanitarium, Louisville, of heart disease.

Scott Bruce Hopkins ✠ Spokane, Wash.; Jefferson Medical College of Philadelphia, 1897; member of the Pacific Coast Oto-Ophthalmological Society; aged 52; died, April 11.

Florin Harrison Pugh, Williamsport, Ind.; Rush Medical College, Chicago, 1902; past president of the Warren County Medical Society; aged 64; died, April 5.

Marshall Petet, Veedersburg, Ind.; Central College of Physicians and Surgeons, Indianapolis, 1880; aged 75; died, April 10, at Mellott, of heart disease.

George Epps Cannon, Jersey City, N. J.; New York Homeopathic Medical College and Hospital, 1900; aged 56; died, April 7, of injuries received in a fall.

William Aaron Sackett ✠ Akron, Ohio; University of Pennsylvania School of Medicine, Philadelphia, 1893; aged 59; died, April 23, of heart disease.

Lewis Jackson Marshall, Adrian, Mich.; University of Vermont College of Medicine, Burlington, 1896; aged 54; died, April 5, of cerebral hemorrhage.

Elias Nichols Payzant, Wolfville, Nova Scotia, Canada; Jefferson Medical College of Philadelphia, 1855; also a dentist; aged 94; died, recently.

John Foster Morrison, Indianapolis; Medical Department of the University of the City of New York, 1881; aged 70; died, April 18, of pneumonia.

Maitland F. Newkirk, Bay City, Mich.; University of Michigan Medical School, Ann Arbor, 1874; aged 72; died, April 14, following a long illness.

David Gilliard, Port Clinton, Ohio; Cleveland University of Medicine and Surgery, 1878; aged 72; died suddenly, April 16, of cerebral hemorrhage.

William Neill ✠ Charles Town, W. Va.; Bellevue Hospital Medical College, New York, 1881; aged 65; died, April 9, at a hospital in Baltimore.

Clarence M. Ustick, Milwaukee; Hahnemann Medical College and Hospital of Philadelphia, 1890; aged 59; died, April 18, at Long Beach, Calif.

Henry M. Marks, Champaign, Ill.; Jenner Medical College, Chicago, 1896; aged 61; died, April 17, at the Burnham Hospital, of lobar pneumonia.

Green Joseph Starnes, Los Angeles; Meharry Medical College, Nashville, Tenn., 1884; formerly a practitioner in Texas; aged 57; died, March 24.

Robert Jones Walton, Harlem, Ga.; University of Georgia Medical Department, Augusta, 1875; aged 70; died, April 10, at a hospital in Augusta.

Stephen Hood Ragan ✠ Kansas City, Mo.; Kansas City Medical College, 1894; served during the World War; aged 60; died, April 22.

Christopher D. Hill, Jersey City, N. J.; University of Virginia Department of Medicine, Charlottesville, 1888; aged 62; died, April 18.

Charles J. J. Gallat ✠ West Hoboken, N. J.; Kentucky School of Medicine, Louisville, 1899; aged 64; died, April 13, of septicemia.

Charles Wesley Smith, Adamsville, Que.; University of Bishop College Faculty of Medicine, Montreal, 1902; aged 49; died recently.

George W. Son, Harrison, Idaho; American Medical College, St. Louis, 1897; aged 72; died recently, of cerebral hemorrhage.

Isaac A. M. Dike, York, N. Y.; University of Buffalo Department of Medicine, 1876; aged 71; died, April 14, of pneumonia.

Trudo Jones Webb, Tipton, Okla.; Memphis (Tenn.) Hospital Medical College, 1904; aged 41; died, April 6, at Kansas City, Mo.

John J. Russell, California, Mo.; St. Louis Medical College, 1858; Civil War veteran; aged 91; died, April 7, at Nevada.

William J. Liles, Kingston Springs, Tenn.; Vanderbilt University Medical Department, Nashville, 1888; aged 64; died, April 9.

Charles H. Wilson, Eminence, Ky.; Pulte Medical College, Cincinnati, 1887; aged 68; died, April 18, following a long illness.

Harold W. Talbot, West Winfield, N. Y.; Baltimore Medical College, 1906; aged 44; died, April 4, following a long illness.

Lewis Clover Potter, New York; Medical Department of Columbia College, New York, 1877; aged 69; died, April 16.

William H. Barclay, Philadelphia; Jefferson Medical College of Philadelphia, 1880; was found dead, February 13.

John M. F. Myers, Trion, Ga.; University of Louisville (Ky.) School of Medicine, 1877; aged 68; died, April 5.

Jacob C. House, Port Townsend, Wash.; Eclectic Medical Institute, Cincinnati, 1890; aged 72; died, March 23.

Morris J. Wilkes, New York (licensed, New York, 1897); aged 58; died, April 9, at Brooklyn, of angina pectoris.

George W. Wire ✠ Wilmington, Ohio; Miami Medical College, Cincinnati, 1876; aged 72; died, April 16.

Presley Q. Fisher, Zanesville, Ohio; Starling Medical College, Columbus, 1865; aged 80; died, April 13.

William A. Rickard, Muncie, Ind.; Eclectic Medical Institute, Cincinnati, 1879; aged 77; died, April 19.

Jonathan Fish Lyon ✠ New York; University of Heidelberg, Germany, 1880; aged 77; died, April 9.

Hiram C. McGregor, New Providence, Tenn. (licensed, Tennessee, 1905); aged 48; died, April 3.

Jacob Goldblum, Minneapolis; Illinois Medical College, Chicago, 1902; aged 48; died, April 10.

J. L. Simmons, Clarksdale, Miss. (years of practice); Civil War veteran; aged 85; died, April 9.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

WHOLE GRAIN WHEAT

Quackery in the Food Field

For some time past THE JOURNAL has been receiving inquiries regarding "Whole Grain Wheat," put out by the Whole Grain Wheat Company of Chicago. A few typical letters follow:

"The Whole Grain Wheat Company, with general offices in Chicago, is advertising widely its canned Whole Grain Wheat products as preventive of all and curative of many ills including goiter, rheumatism and asthma through their publication called *Motive*. May I ask whether this is only one other case of exploitation of the sick, or whether there is any real merit in their product as food?"

The letter just quoted was from a physician in New York State, while an Arkansas physician wrote:

"Have you anything on file in your nostrum department about Whole Grain Wheat? I have just received a prospectus which looks like a giant fake."

A Minnesota physician wrote:

"Can you give me any information relative to Whole Grain Wheat made by a company of this name in Chicago and patented by a man named C. H. Woodward? They claim great things for this product, and have many medical testimonials as a corrective of everything from asthma to carcinoma."

A physician in Des Moines recently asked:

"Can you advise me regarding the type of propaganda advanced by the *Motive*? Also advise me regarding C. H. Woodward of Chicago, whose scientific researches were the subject of a story in a recent number of *Success*. Mr. Woodward is seeking an opportunity to lecture in our public schools."

This letter came from the Pacific Coast:

"What is your opinion of this Whole Grain Wheat Company and what can be done to keep them from distorting facts and making things look as if the American Medical Association approved and recommended Whole Grain Wheat to the exclusion of milk, sugar and all the normal foods human beings eat? Is it true the A. M. A. recommends this 'patent medicine' cure-all?"

The guiding force behind the Whole Grain Wheat Company seems to rest in its president, C. H. Woodward, whose name appears extensively in the advertising. The company's advertising methods are ingenious and many. In addition to advertisements in the ordinary channels, newspapers, etc., the Whole Grain Wheat concern publishes a number of booklets and pamphlets, and gets out a monthly house organ called *The Motive*, which has C. H. Woodward for its editor and publisher and chief contributor.

THE AMERICAN EDUCATIONAL FOOD COUNCIL

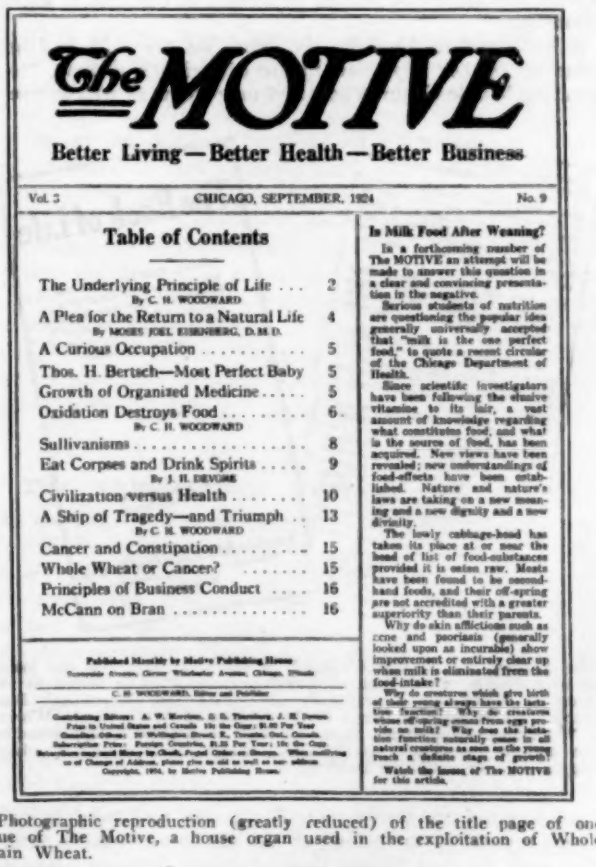
In addition the concern, apparently, organizes so-called "food clinics" in various towns and has as a subsidiary advertising organization the high-sounding "American Educational Food Council." This "Council," appears to be a mere "paper" organization. It has Woodward as its "president" and is said to have several "vice-presidents"—C. E. Stedman of Detroit being an especially active "vice-president." Stedman seems to go about the country purporting to give educational talks on diet under the auspices of the "American Educational Food Council"; his real function, however, seems to be that of ballyhooing for Whole Grain Wheat.

One of the leaflets used in advertising Whole Grain Wheat bears on its title page: "There are But Four Causes of Disease—C. H. Woodward." The four causes, according to Mr. Woodward, are "denatured food, denatured air, denatured water and violence." Just what meaning Mr. Woodward attaches to his use of the word "denatured" is not quite clear. He illustrates his idea of "denatured air" by stating that carbon monoxid added to air denatures it. In discussing "denatured water," he says: "H_2O is water and nothing else under the sun is. Pollute the water and you denature it." The facts are, of course, that there is practically no such thing as pure H_2O in nature. Certainly most water used for drinking and cooking has other ingredients besides hydrogen and oxygen.

Mr. Woodward's further argument is that if denatured air or denatured water or violence has not brought about the diseases that we call cancer, tuberculosis, diabetes, goiter or what not, then "the only other cause is denatured food." With this as an axiom he apparently finds no difficulty in arguing that the cure for all disease is Whole Grain Wheat because it is *not* denatured, and it will make up the deficiencies of the denatured food on which a crazy world is feeding. Accordingly, we are told that Whole Grain Wheat has cured such serious diseases as cancer, tuberculosis, Bright's disease, diabetes and colitis, as well as such conditions as "catarrh," constipation, asthma, bed-wetting in children, etc.

ELIMINATING THE MEAT BILL

Another little booklet is "The Book Of Life," published by the "American Educational Food Council," the "paper" organization used as a subsidiary in boosting Whole Grain



The MOTIVE

Better Living—Better Health—Better Business

Vol. 3 CHICAGO, SEPTEMBER, 1924 No. 9

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Is Milk Food After Weaning?

In a forthcoming number of The MOTIVE an attempt will be made to answer this question in a clear and convincing presentation in the negative.

Serious students of nutrition are questioning the popular idea generally universally accepted that "milk is the one perfect food," to quote a recent circular of the Chicago Department of Health.

Since scientific investigators have been following the elusive vitamine to its lair, a vast amount of knowledge regarding what constitutes food, and what is the source of food, has been acquired. New views have been revealed; new understandings of food-effects have been established. Nature and nature's laws are taking on a new meaning and a new dignity and a new divinity.

The lowly cabbage-head has taken its place at or near the head of list of food-substances provided it is eaten raw. Meats have been found to be second-hand foods, and their off-spring are not accredited with a greater superiority than their parents.

Why do skin afflictions such as acne and psoriasis (generally looked upon as incurable) show improvement or entirely clear up when milk is eliminated from the food-intake?

Why do creatures which give birth of their young alive have the lactation function naturally cease in all natural creatures as soon as the young reach a definite stage of growth?

Watch the issues of The MOTIVE for this article.

Photographic reproduction (greatly reduced) of the title page of one issue of The Motive, a house organ used in the exploitation of Whole Grain Wheat.

Wheat. In this booklet the number of conditions that have been cured by the Whole Grain Wheat treatment is enlarged by the addition of paralysis, epilepsy, St. Vitus' dance, insanity, sterility, eczema, headache, acne and, of course, high blood pressure. You are told in this booklet that if you will use one-half can of Whole Grain Wheat daily "such use will completely take the place of all meat and supply at least 50 per cent. of all the replenishment required."

No exploitation of food fads is complete that does not make an appeal to the obese, and the advertising of Whole Grain Wheat is no exception. Hence the little booklet on the treatment of obesity by the use of Whole Grain Wheat. However, this booklet differs from most of its type in that it also explains how those who are underweight can gain by using Whole Grain Wheat—a perfect example of playing both ends against the middle.

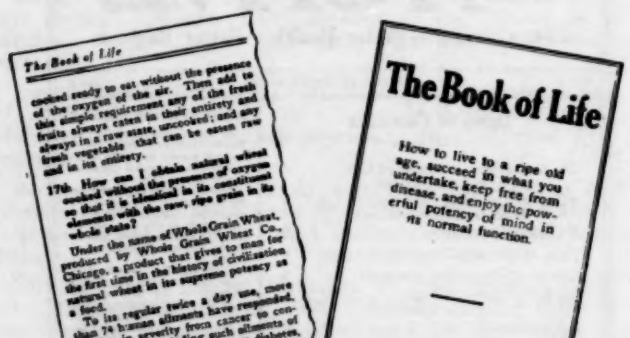
TESTIMONIALS

Of course, there are testimonials. No nostrum can exist without testimonials, whether it be sold frankly in the form

of pills or potions or in the form of some well known food product put up in a special way and endowed with all the esoteric virtues of a panacea. To attempt to analyze all the testimonials published for Whole Grain Wheat would be a large and fruitless task. Just a few must suffice. From the Whole Grain Wheat advertising matter we learn that a gentleman in Swissvale, Pa., who was habitually constipated, who suffered with acidity of the stomach, and was a nervous wreck, used Whole Grain Wheat, and his "trouble has entirely left."

A Green Bay, Wis., man, who said that he was broken down, with a weak, overtaxed heart, very low blood pressure, purple complexion, a waist measure of 52 inches, and a weight of 262 pounds, was persuaded by the distributor of Whole Grain Wheat to eat this product. He did so, and now instead of being a perfect fifty-two, he is a perfect forty. His weight has dropped from 262 pounds to 205, while his blood pressure and heart are normal. But it works the other way too, for a Grand Rapids, Mich., citizen used Whole Grain Wheat and gained 30 pounds in weight in addition to getting "more pep."

A little girl in Norfolk, Va., who, we are told, had been given up by her physician to die of Bright's disease, "took to eating Whole Grain Wheat and now she is as well as ever."


The Book of Life
How to live to a ripe old age, succeed in what you undertake, keep free from disease, and enjoy the powerful potency of mind in its normal function.
Issued in the interests of Better Public Health
American Educational Food Council
Chicago

Photographic reproduction (reduced) of the cover page and one inside page of a booklet "The Book of Life," purporting to be issued in the interest of better public health by the "American Educational Food Council." It is actually issued in the interest of Whole Grain Wheat; the "American Educational Food Council" is merely a high-sounding name used by the Whole Grain Wheat concern as a subsidiary advertising concern for exploiting its product.

A gentleman from Darlington, S. C., who had tried in vain to cure eczema in the palms of his hands was unable to get relief until he used Whole Grain Wheat. We are asked to believe, too, that this same person's youngest daughter had scarlet fever when she was 12 years old, "which left her with a dark cast on her teeth"; she took to eating Whole Grain Wheat, and now her teeth "are as white as pearls." Perhaps the choicest gem in the testimonial repertoire of Whole Grain Wheat is that from a Mr. L. E. O'Keefe. From Mr. O'Keefe's letter, which is photographically reproduced and to which an entire page of *The Motive* is devoted, it appears that he is an "osteopathic physician." Mr. O'Keefe describes the case of a 14 year old boy who had "a typical case of exophthalmic goiter complicated by albuminuria." The lad, in addition to being nervous, irritable and easily excited, had a rapid heart, prominent eyeballs, was undernourished and of subnormal mentality. Then:

> "A diet of Whole Grain Wheat, raw and cooked vegetables and fruits with one baked potato a day, was prescribed, with an occasional osteopathic treatment."

After four months this boy, we are told, gained 17 pounds, became quick, alert, willing to talk, and showed no evidence of any kidney trouble or goiter!

Recently the public's dread of cancer has been played on by the Whole Grain Wheat concern, and extensive quotations have been made from the book by J. Ellis Barker on cancer, with the obvious intent of "selling" the idea that if one will use Whole Grain Wheat the chances of cancer developing will be materially lessened.

THE PRODUCT ITSELF

So much for the exploitation methods of the Whole Grain Wheat Company. As to the product itself, it is, apparently, nothing more than whole grain wheat, partly cooked. According to the older claims made by the manufacturers, nothing is added to the grain except water, sugar and salt, and nothing has been taken away. The more recent claims seem to omit reference to sugar. Recently some independent analytic work has been done on Whole Grain Wheat. It was conducted in the Chemical and Nutrition Laboratories of the American Institution of Baking, the research department of the American Bakers Association. The results of this work appear in an article by Dr. H. E. Barnard published in the April number of *Baking Technology*, the official organ of the American Institute of Baking. Dr. Barnard is, of course, well known to the medical profession by his splendid work as State Food and Drug Commissioner of Indiana for a period of more than ten years. For some time Dr. Barnard has been the director of the American Institute of Baking.

Chemical work done by the Institute on Whole Grain Wheat give the following figures, which are published in parallel columns with the figures from a similar analysis of wheat bread made with milk:

	"'Whole Grain Wheat'	'Milk Bread'
"H_2O	69.90 per cent.	38.00 per cent.
"Ash	0.98 per cent.	1.61 per cent.
"N x 5.7	4.14 per cent.	8.61 per cent.
"Fat	0.70 per cent.	3.20 per cent.
"Cr. Fiber	0.83 per cent.	0.22 per cent.
"Nitrogen-fre ext.	23.45 per cent.	48.36 per cent.
"CaO	0.03 per cent.	0.12 per cent.
"P_2O_5	0.29 per cent.	0.46 per cent."

In view of the claims already mentioned in part, made for Whole Grain Wheat, it is interesting to notice that the figures just given show that there is just four times as much lime in milk bread as in Whole Grain Wheat. If, as has been pointed out by nutrition experts, a growing child requires over a gram of lime daily, then it would seem necessary to feed such a child more than eleven cans of Whole Grain Wheat daily in order to keep up the calcium requirements. A good deal is made in the advertising of the phosphorus content of Whole Grain Wheat. The analysis shows that ordinary milk bread has one and one-half times the phosphate content of Whole Grain Wheat, and such bread contains twice the protein and four and one-half times the fat to be found in Mr. Woodward's product. When it comes to water, however, Whole Grain Wheat is found to contain practically 70 per cent., as compared with 38 per cent. to be found in milk bread.

Before leaving the chemical analysis, it is worth noting that a pound of Whole Grain Wheat furnishes only about 530 calories, as compared with from 1,100 to 1,200 calories furnished by a pound loaf of bread. Furthermore, the pound loaf of bread costs about 10 cents, while a pound of Whole Grain Wheat costs about 25 cents when bought in lots of one dozen cans.

NUTRITION TESTS

But the facts brought out by chemical research on Whole Grain Wheat were not as interesting as those brought out in the nutrition laboratory to test the life-sustaining properties of this wonder food. The tests were conducted, as is usual, with young rats, selected in their vigorous growing period. These animals, in addition to the diet offered, were constantly supplied with clean drinking water. The feeding test was designed to compare directly the nutritional value of Whole Grain Wheat with 8 per cent. milk bread, which corresponds to bread in which whole milk is the sole liquid ingredient. The control diet was a laboratory stock food consisting of two parts, by weight, of dried bread crumbs and one part, by weight, of powdered whole milk. In addition, feeding tests were carried out with the ordinary whole wheat berry.

Whole Grain Wheat was fed according to the directions on the can; that is, as soon as the can was opened the contents were placed in a glass receptacle and put in a refrigerator, and were never kept more than two days after having been taken from the can. The article in *Baking Technology* gives the growth curves of the rats that were on (1) Whole Grain Wheat, on (2) ordinary wheat purchased from the feed store, on (3) milk bread, and on (4) the laboratory stock food. The growth curves show that on neither Whole Grain Wheat nor on the ordinary wheat berry did the rats make consistent gains. On the contrary, they lost weight and either died or came near death. There were six rats that were put on the Whole Grain Wheat ration; three of these died, and the other three were near death at the time the report was made. In commenting on the results, Dr. Barnard in his article sums up the case excellently. He says:

"It must be concluded from the above feeding test that Whole Grain Wheat lacks some of the essentials necessary for growth in young animals, being in this respect a far inferior food to milk bread.

"It may be inferred from this report that because the rats which served as the subjects in this investigation died a lingering death, Whole Grain Wheat killed them. No, no more than apples, or potatoes, or even butter killed the test animals which found it impossible to live on those excellent foods.

"Broadly speaking, the rats starved to death because their foods were incomplete, lacking in certain essentials which are necessary to proper nutrition.

"And human animals, fed on the same restricted diets, would go through the same experience as the rats, and come to the same sad end. That's the reason why our diversified diet of bread and milk and meat and fruits and vegetables is the best diet. It is the best because it is balanced, because the deficiencies of one food are made up in another, because our natural instincts, ranging through the variety of foods on the average American table, find these and put to use enough fat, enough starch, enough protein, enough minerals, enough vitamins, enough roughage, to keep us normal, healthy, happy human beings. And for that part of the human family that is unnormal, unhealthy and unhappy, the science of medicine offers a genuine relief, not by drugging, nor by starving, not by strange diets, but by the rational regulation of the chemistry of the body after an intelligent diagnosis has determined the reason for the ills.

"No food manufacturer has a right to take his product out of its natural place in the ration and exploit it as a cure-all. No food is worth more than the measure of its ability to build the body, to furnish energy, to activate the body cells.

"By this appraisal, Whole Grain Wheat is as valuable a food as whole wheat cooked in water until it is soft—and no more."

Correspondence

"COORDINATION IN MEDICAL EDUCATION"

To the Editor:—In a recent article on this subject by Dr. C. R. Bardeen, there appear several statements that deserve comment. He states that "those responsible for educational diagnostic clinics should emphasize the importance of rewarding the private practitioners for careful physical examination, advice as to prevention of disease, and early diagnosis. In the discussion of laboratory facilities, he states that 83,121 specimens were received by the state board of health, and at the central laboratory 32,000 Wassermann tests and 1,000 spinal fluid examinations were made. He states further: "These services are carried out free of charge. It is undoubtedly a great economic saving to have laboratory work of this kind centralized. . . . Probably more than two thirds of the practitioners in the state take advantage of them, and this I believe fully justifies the public expenditure involved." Evidently the latter service is available to the financially self-supporting, as well as the indigent. The point of issue is, the inconsistency of carefully guarding the practitioner of clinical medicine against "state medicine," while the field of the practitioner of laboratory medicine is entirely taken over by the state.

Regardless of any one's attitude on the socialization of medicine, it seems that all will agree, if this is ever to be a reality, that the whole field of medicine should enter into this simultaneously, and not by absorbing one specialty at a time. Fortunately, as long as clinical pathologists make tissue diagnoses which equal any diagnosis in value to a patient, usually for the munificent sum of $5, or free of charge for the indigent, or a Wassermann test for from $1 to $5 or for charity, this specialty cannot be accused of commercialism.

The statement that "it is undoubtedly a great economic saving to have laboratory work of this kind centralized" could well be applied to other specialties. If mass production were thus applied to tonsillectomies, appendectomies or any medical or surgical procedure, the economic saving on laboratory charges would dwindle into puny insignificance. So this as one reason for justifying public expenditure seems quite inadequate.

This communication is not in any way intended as a criticism of Dr. Bardeen's article, but the statements picked from it reflect a common attitude toward the practice of clinical pathology, not only in this author's state, but in nearly every state. This can be corrected only by having the same regard for laboratory medicine as for clinical medicine. If this is not done, it is but the first step in the socialization of medicine (and it is not intended to convey the idea that this would not be desirable). If such is not the sequence of events, it will mean the elimination of the clinical pathologist from the practice of medicine; obviously, an individual cannot compete with the state.

F. W. NIEHAUS, M.D., Omaha.

THE REMOVAL OF SUPERFLUOUS HAIR

To the Editor:—The advertising pages of the less particular urban daily papers run notices appealing to the vanity of persons with excessive hair in undesirable locations and promising relief without danger by the use of supposedly modified or improved roentgen rays not available to the general practitioner. Our offices, clinics and dermatologic meetings are receiving increasing numbers of persons who have been misguided enough to have superfluous hairs removed by this means. Their faces now disclose objective signs of overdosage not so acceptable to the patient as the loss of hair.

It seems hardly necessary to state that, early in the experimental application of the roentgen ray, its ultimate dangers were quite unknown. Now that years have passed, new martyrs of advancing science are laid to rest following devastation of tissue repeatedly exposed to the bombardment of the rays. The dangerous sequelae of roentgen-ray exposure are guarded against by the modern roentgenologist. On the other hand, one of the features of overdosage, one of the sign posts of future danger, has been utilized by the less honest, or, perhaps, more worldly persons who have disregarded the ultimate dangers and have used the rays to a degree that gives a permanent alopecia.

The very evidence of the permanent inhibition of the hair follicle cells is in itself proof positive that death of specialized tissue has taken place, and that the dryness, atrophy and telangiectasia must appear. The patient unwarned, the effects unmistakable, the misfortunes of the roentgen-ray pioneers have apparently been in vain. New subjects for future evil results are made daily.

Only by education can this distinct, harmful influence be eradicated. The physician whose advice is sought for the

relief of hypertrichosis by the roentgen ray should impress his patient with the fact that the roentgen ray, no matter how applied, as far as common knowledge among physicians of this day and age is concerned, powerful enough or long continued sufficiently to cause the permanent loss of superfluous hairs, is powerful enough to presage unwanted and dangerous end-results.

HERMAN GOODMAN, M.D., New York.

THE "RICKETTSIA"-BODIES

To the Editor:—In his article on the Rickettsias (THE JOURNAL, March 7, p. 723), Wolbach refers in certain terms to my work on these bodies and on cognate subjects. May I be allowed a few words in comment? First, as regards specific points, I would disclaim sponsorship for such words as "haematophyagy" and "haemaboboly." Secondly, I venture to say that there is nothing more "polemical" in my papers than, for instance, Wolbach's own remarks relating to the views of Breinl and of Weigl, on the last page of his article (p. 728). If a worker is not to be allowed to state candidly that he differs from the opinions held by others, giving his reasons for so doing, then all scientific progress is stultified. To Wolbach's criticisms of my own work, a study extending over four years, I have no wish to reply; I prefer to leave the question of its value to the judgment of others. I will only say, with reference to the question immediately at issue, that out of his own writings—or, to be precise, those of himself and Schlesinger—comes most weighty evidence against the "Rickettsia"-bodies being other than abnormal products of cell metabolism. The authors say (*J. M. Res.* **44**:264 [Dec.] 1923): "The number of infected [endothelial] cells in all cultures has been disappointingly small. It is evident that cells containing the micro-organisms [i. e., the 'Rickettsias'] die, and yet we have been unable to obtain any evidence that the organisms multiplied or even persisted in plasma. There seems to be no mechanism for the passage of the micro-organism from cell to cell and we are forced to the conclusion that the cells containing the micro-organisms in tissue-cultures are cells originally infected in the animal body, or descendants of such cells." Has any one ever heard of such a micro-organism, unable to spread from one cell to another and maintain and propagate itself, given the presence of its susceptible host-cells—which, it must be remembered, lived all right (where normal and "uninfected") in the cultures? Further comment is, I think, unnecessary.

In the last annual report of the British Medical Research Council, reference was made to the relative lack of progress, recently, in bacteriology and pathology, especially as regards the general question of the virus diseases. Leaving entirely aside my own work and the conclusions to which it led me, I may say that I think the reason for this slowing down of the advance is not improbably that indicated in the following sentences quoted (in English translation) from Doerr and Zdansky (*Ztschr. f. Hyg.* **102**:47 [April] 1924, p. 47): "It appears not impossible that the ultimate true solution of the problem of epidemic (lethargic) encephalitis has been wanting hitherto because the microbiologists working thereon have had under consideration in a too one-sided manner a contagium animatum as the necessary and sufficient cause of this disease. The reason for this standpoint has lain in the assumption invariably made that an infective agent, transmissible from animal to animal, can only be a living organism, a supposition which, as Doerr has several times pointed out, is not necessarily in all circumstances correct." In another part of the same paper, Doerr and Zdansky refer to certain experimental observations by various workers which they regard (if subsequently corroborated as pointing unmistakably in the direction of a nonliving, transmissible virus or materies morbi, which would be of the nature of a cytotoxin and might, indeed, be regarded as a ferment, the resulting contagious disease, in each case, being an enzyme infection. This hypothesis the authors apply to the particular case of the experimental encephalitoid conditions.

It would be, I think, unfair to your readers to leave them under the impression that, because Wolbach cursorily dismisses this new conception of the etiology of various infectious diseases of hitherto unknown causation, it may therefore be considered as of no importance.

H. M. WOODCOCK, London, England.

"PHENOLTETRACHLORPHTHALEIN LIVER FUNCTION TEST"

To the Editor:—In a paper by Maurer and Gatewood in THE JOURNAL, March 28, the following statement appears: "We know that the fate of colloid dyes in the organism is entirely different from that of diffusible dyes." Can you give me any references on this subject?

ERNEST W. WILLETTS, M.D., Pittsburgh.

NOTE.—The letter of Dr. Willetts was referred to Dr. Gatewood, who replies: The statement referred to is quoted from the work of Delprat and Evans, who have gone into this problem at great length. In Evans' earlier papers he regarded the removal of dyes as a definite vital staining process, but in his later work changed his position and brought forward proof that the dyes are phagocytized. The most important reference is probably that of Evans, H. M.: *Anatomical Record* **98**, 1904. There are also two important papers by Nathan in the *Journal de l'anatomie et de physiologie* **44**:200, 1908, the latter being one of the first papers to come forward with the definite conclusion that the dyes are phagocytized instead of being diffused as crystalloids.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

INCOMPATIBILITY OF MERCUROCHROME-220 SOLUBLE WITH QUININ AND UREA HYDROCHLORID AND ALKALOID SALTS

To the Editor:—What sort of chemical reaction, if any, would occur from the combining of equal parts of a 2 per cent. aqueous solution of mercurochrome-220 soluble and a 10 per cent. solution of quinin and urea hydrochlorid? I have made up a solution of these, and I fail to see any precipitation, but would like your idea of the usefulness of such a solution, or any other percentage of either of the ingredients mentioned.

F. E. DARGATZ, M.D., Kinsley, Kan.

ANSWER.—The A. M. A. Chemical Laboratory reports that when a solution of mercurochrome-220 soluble, 2 per cent., is mixed with an equal volume of a solution of quinin and urea hydrochlorid, 10 per cent., a precipitate results. This chemical incompatibility appears to be due to the interaction of the rather acid solution of quinin and urea hydrochlorid (which was found to have p_H less than 4) on the basic mercurochrome solution, whereby the sodium is split off and the relatively insoluble anhydrid form of mercurochrome (di-brom-hydroxy mercuri-fluorescein), together with some quinin, precipitates. Experiments made in the Laboratory, but which have not yet been reported, indicate that *fresh* solutions of mercurochrome-220 soluble contain such an exceedingly small concentration of mercuric ions that there is little likelihood of its acting as an alkaloidal precipitant by forming complex compounds of alkaloid and mercury containing substance. The general incompatibility of mercurochrome-220 soluble with many other alkaloidal salts has been reported by Warren (Incompatibility of Mercuro-

chrome-220 Soluble with Local Anesthetics and Alkaloids, THE JOURNAL, April 14, 1923, p. 1091). In all cases alkaloidal salts of strong acids were used, so that the precipitate was probably a mixture of the free alkaloid and the di-brom-hydroxy-mercuri-fluorescein, though this was not brought out in the report. Warren reported no precipitate with coniin hydrochlorid and mercurochrome-220 soluble; recent experiments with coniin hydrobromid, however, gave the characteristic precipitate.

It is inadvisable, therefore, to employ "solutions" of both alkaloids and mercurials whether or not the mercurial is in the form yielding mercuric ions (as potassium mercuric iodid), which precipitates complex alkaloid-mercuri compounds, or as a relatively nonionizable substance, which latter, if treated with an alkaloid salt, yields the insoluble form of the mercurial, together with the insoluble ("free") alkaloid.

"MERCUROCHROME-220 SOLUBLE" INSOLUBLE IN ALCOHOL

To the Editor:—Please inform us as to the manner of making up an alcoholic solution of mercurochrome. We have found that mercurochrome is not directly soluble in absolute alcohol.

STEPTOE VALLEY HOSPITAL, East Ely, Nev.

ANSWER.—Preliminary tests made in the A. M. A. Chemical Laboratory show that "mercurochrome-220 soluble" is much less soluble in alcohol than in water. In fact, the laboratory was not able to make an alcoholic solution stronger than 0.01 per cent. mercurochrome, using 95 per cent. alcohol. In making these experiments, both the sodium salt and the anhydrid form were used. There appears to be little difference in the solubility of these two forms. There is a sufficient amount of "mercurochrome-220 soluble" in alcohol to color the alcohol, but it is highly improbable that the amount is sufficient to be of practical therapeutic importance.

ANTIBODIES FOR POISON OAK DERMATITIS

To the Editor:—Is there a serum for poison oak dermatitis? If so, is it prophylactic or curative? Is it a recognized therapeutic measure? By whom is it manufactured?

J. F. DOUGHTY, M.D., Tracy, Calif.

ANSWER.—A number of publications have been made on the use of preparations made from *Rhus toxicodendron* which are claimed to prevent or alleviate the dermatitis produced by contact with *Rhus toxicodendron:*

Strickler, Albert: The Toxin Treatment of Dermatitis Venenata, THE JOURNAL, Sept. 17, 1921, p. 910.
Strickler, Albert: Value of the Toxin (Antigen) of Rhus Toxicodendron and Rhus Venenata, THE JOURNAL, June 2, 1923, p. 1588.
Corson, E. F.: The Value of the Toxin of Rhus Toxicodendron and Rhus Venanata, THE JOURNAL, July 7, 1923, p. 59.
Flagg, D. P.: Treatment of Poison Ivy Dermatitis, THE JOURNAL, Aug. 18, 1923, p. 598.

So far the Council on Pharmacy and Chemistry has not accepted any preparations of this kind, but has under consideration products made by the process used by Strickler and also by a different process.

It is well to recall that the use of the toxins from *Rhus* by intramuscular injections, as well as the internal administration of *Rhus* preparations, is still in the experimental stage.

ROTARY VERSION OF POMEROY

To the Editor:—I note in an article recently published, reference to "the rotary version of Pomeroy." I must confess this is a new one to me. Kindly elucidate, and please omit my name.

M.D., Woodstock, N. B.

ANSWER.—Pomeroy's version, a method of manual rotation of the vertex, above the pelvic brim, through an arc of 180 degrees, is described by C. S. Harper (*Wisconsin M. J.* **23**:23 [June] 1924, based on a personal communication from Dr. Pomeroy to Dr. Harper). The version can be done as soon as dilatation is sufficient to permit the insertion of the operator's hand without tearing the cervix. The patient is catheterized, the field prepared, and the patient anesthetized. The obstetrician wears a long gauntlet glove on the hand to be inserted. This is the right hand in right occiput posterior cases and the left hand when the vertex is in the left occiput posterior position. From five to fifteen minutes is taken to dilate the perineum; then the vertex is gently pushed above the pelvic brim and the hand inserted through the cervix, with care to avoid tearing the latter. If the cord is found prolapsed, it is pushed up or carried over a convenient extremity. The hand is slid under the occiput, which rests on the palm. The free hand palpates externally for the anterior shoulder and by pressure on it aids in the rotation. The vertex is rotated 180 degrees so that it may reengage in the same oblique diameter (right occiput posterior to left occiput anterior). The anesthetic is stopped; a snug abdominal binder is applied with a pad fixing the anterior shoulder. The vaginal hand flexes the head and maintains the rotation until it has firmly engaged. Gentle suprapubic pressure may hasten engagement. The vaginal hand can be expelled by the head. Labor proceeds as an anterior position of the vertex.

INSIGNIA FOR PHYSICIANS' AUTOMOBILES

To the Editor:—I notice that the American Medical Association has adopted a new auto emblem. May I ask the reason for the change and an explanation of the present design?

R. H. S.

ANSWER.—A number of inquiries have been received recently concerning the new automobile emblem now being sold through the Association headquarters. The emblem originally used by the American Medical Association was limited in its sale to physicians, but it bore no distinctive marking and was found frequently in the hands of those not authorized to use it. The present emblem is protected in three ways: (1) by carrying a definite number, which is registered at the headquarters office of the American Medical Association; (2) by carrying the letters M.D., recognized everywhere as doctor of medicine, unmistakably the marking of a physician, and therefore definite proof of false pretense if carried on the car of any but a physician; (3) by copyright of the design, thereby making it possible for the American Medical Association to maintain complete control over the manufacture and distribution of the emblem.

A. M. A. automobile emblem (design copyrighted): green cross on background of pure white; center disk, deep crimson enamel with letters M D and insignia in bright gildine metal; emblem number in panel; diameter, 3½ inches.

The design, as may be seen in the accompanying illustration, contains as its central feature the rod and serpent of Aesculapius. The knots of the rod symbolize the difficult problems of medicine; the serpent typifies wisdom. The Aesculapius symbol therefore stands for power, wisdom and health. Scarlet and gold have long been regarded as the particular colors of the physician's costume. In the middle ages, the physicians of the king's retinue wore scarlet cloaks. The elixir of life was usually a red tincture. Gold symbolizes the sun, which has long been regarded as having definite influence for health and, indeed, modern scientific investigations have confirmed its beneficence. The radiating lines underlying the scarlet enamel of the emblem signify the sun's rays, which emerge to form a gold band around the insignia.

The central part of the design lies on the green cross, the four arms of which radiate from it. Previous to 1910, the use of the red cross was rather general as the insignia of hospitals, health departments and medical institutions. At that time the executive committee of the American National Red Cross requested all hospitals, health departments and like institutions to refrain from the use of the red cross in order to avoid confusion, and suggested as a substitute the green cross on a white background. Congress restricted the use of the red cross to the American National Red Cross, and prohibited organizations from adopting this emblem after the passage of the law. At that time numerous organizations, particularly those in the eastern part of the United States, adopted the green cross on white ground as a proper emblem for the automobiles of physicians or of hospitals, and for ambulances. Many concerns began to manufacture this design as an emblem for the automobiles of physicians. In some cities, municipal ordinances gave cars bearing the green cross special privileges. The use of the green cross on the present American Medical Association's design is a recognition of the widespread use of this device in many sections of the country, and obviously makes it unnecessary to introduce new municipal ordinances for recognition of the new emblem.

From a legendary point of view, it is interesting to know that the cross usually signified punishment and death previous to the Christian era. The Persians, however, used it as a symbol for the sun, and the Gauls endowed it with creative and fructifying powers.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ARKANSAS: Little Rock, May 12-13. Sec., Reg. Bd., Dr. J. W. Walker, Fayetteville; Sec., Homeo. Bd., Dr. Allison A. Pringle, Eureka Springs; Sec., Eclectic Bd., Dr. C. E. Laws, Fort Smith.

DELAWARE: Wilmington, June 16-18. Sec., Reg. and Homeo. Bd., Dr. H. W. Briggs, 1026 Jackson St., Wilmington.

FLORIDA: Tampa, June 15-16. Sec., Dr. William M. Rowlett, Citizens Bank Bldg., Tampa.

GEORGIA: Augusta, June 2-4. Sec., Dr. C. T. Nolan, Marietta.

GEORGIA: Atlanta, June 10-12. Sec., Dr. C. T. Nolan, Marietta.

ILLINOIS: Chicago, June 23-25. Supt. of Regis., Mr. V. C. Michels, Springfield.

IOWA: Iowa City, June 4-6. Sec., Dr. Rodney P. Fagen, Capitol Bldg., Des Moines.

KANSAS: Kansas City, June 16. Sec., Dr. Albert S. Ross, Sabetha.

KENTUCKY: Louisville, June 9-11. Sec., Dr. A. T. McCormack, State Board of Health Bldg., Louisville.

MARYLAND: Baltimore, June 16-19. Sec., Reg. Bd., Dr. Henry M. Fitzhugh, 1211 Cathedral St., Baltimore.

MARYLAND: Baltimore, June 9-10. Sec., Homeo. Bd., Dr. J. S. Garrison, Ten Hills, Baltimore.

MASSACHUSETTS: Boston, May 12-14. Sec., Dr. Charles E. Prior, 144 State House, Boston.

MICHIGAN: Ann Arbor, June 9-11. Sec. Dr. Guy L. Connor, 707 Stroh Bldg., Detroit.

MICHIGAN: Detroit, June 15-17. Sec. Dr. Guy L. Connor, 707 Stroh Bldg., Detroit.

MINNESOTA: Minneapolis, June 16-18. Sec., Dr. T. S. McDavitt, Lowry Bldg., St. Paul.

MISSISSIPPI: Jackson, June 23-24. Sec., Dr. F. J. Underwood, Jackson.

MISSOURI: St. Louis, June 23-26. Sec., Dr. James Stewart, Capitol Bldg., Jefferson City.

NATIONAL BOARD OF MEDICAL EXAMINERS: Written examinations in Class A medical schools. Parts I and II, June 24-26. All applications for this examination must be made on or before May 25. Sec., Dr. J. S. Rodman, 1600 Walnut St., Philadelphia.

NEW JERSEY: Trenton, June 16-17. Sec., Dr. Alexander Macalister, State House, Trenton.

NEW YORK: Albany, Buffalo, New York and Syracuse, June 22-25. Sec., Dr. Harold Rypins, Education Bldg., Albany.

NORTH CAROLINA: Raleigh, June 22-26. Sec., Dr. Kemp P. B. Bonner, Morehead City.

OHIO: Columbus, June 9-12. Sec., Dr. H. M. Platter, Hartman Hotel Bldg., Columbus.

SOUTH CAROLINA: Columbia, June 23. Sec., Dr. A. Earle Boozer, 505 Saluda Ave., Columbia.

TEXAS: Austin, June 23-25. Sec., Dr. T. J. Crowe, 918-19 Mercantile Bank Bldg., Dallas.

VIRGINIA: Richmond, June 23-26. Sec., Dr. J. W. Preston, Shenandoah Life Bldg., Roanoke.

WYOMING: Cheyenne, June 8-10. Sec., Dr. J. D. Shingle, Citizens Bank Bldg., Cheyenne.

Washington January Examination

Mr. William Melville, secretary, Washington Department of Licenses, reports the oral and written examination held at Olympia, Jan. 12, 1925. The examination covered 14 subjects and included 140 questions. An average of 75 per cent. was required to pass. Five candidates were examined, all of whom passed. Twenty-five candidates were licensed by reciprocity. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Northwestern University	(1910)	76
McGill University	(1919)	87
University of Manitoba	(1919)	88
Aichi Prefecture Special Medical School, Japan	(1921)*	75
Kanazawa Special Medical School, Japan	(1923)*	81

LICENSED BY RECIPROCITY College	Year Grad.	Reciprocity with
College of Medical Evangelists	(1923)	Idaho
University of Colorado	(1912)	Kansas
University of Georgia	(1919)	Georgia
College of Physicians and Surgeons, Chicago	(1900)	Oregon
Northwestern University	(1907) Minnesota, (1924, 4)	Illinois
University of Illinois	(1916)	Wisconsin
Indiana University	(1908)	Montana
College of Physicians and Surgeons, Keokuk	(1897)	Iowa
State University of Iowa College of Medicine	(1917)	Iowa
College of Physicians and Surgeons, Baltimore	(1913)	Montana
University of Minnesota	(1903), (1915)	Minnesota
Barnes Medical College	(1908)	Illinois
University Medical College of Kansas City	(1907)	Illinois
Eclectic Medical Institute, Cincinnati (1886) Ohio, (1908) Idaho	(1885)	Oregon
University of Oregon	(1902), (1922)	Oregon
Queen's University	(1903)	Minnesota
University of Toronto	(1922)	Montana

* Graduation not verified by the American Medical Association.

Book Notices

WILLIAM CRAWFORD GORGAS, HIS LIFE AND WORK. By Marie D. Gorgas and Burton J. Hendrick. Cloth. Price, $5. Pp. 359, with 10 illustrations. Philadelphia: Lea & Febiger, 1924.

Notable biographies in medicine are no longer a novelty; the Vallery-Radot "Pasteur," the life of Metchnikoff by his wife, of Sir Victor Horsley by Paget, of Lord Lister by Sir Rickman Godlee, are among the best examples of true literary art devoted to the heroes of science. We have had in our own country excellent biographies of Ephraim McDowell and of William Beaumont, but thus far no work whose literary merit and whose field in the position of literature would seem to entitle it to consideration both as a record of scientific achievement and as a literary accomplishment.

The life of William Crawford Gorgas, by his wife and Burton J. Hendrick, represents an unusual collaboration, a person intimately acquainted with the career of the subject working in this instance with a writer trained in the popular journalistic method. The real personality in the work appears naturally in those portions in which Mrs. Gorgas speaks in the first person; this is particularly apparent in the first chapter, which is a simple account of the first contact of General Gorgas with yellow fever and of his meeting at the same time with the girl who became his wife. Next comes a throw back to the ancestry and youth of the boy who was to become noted for stamping out one of the world's most devastating diseases. General Gorgas is here pictured as a young man with an unextinguishable desire for a military career; indeed, we are told that he chose medicine rather than law because, failing in the West Point examinations, he thought medicine a more direct route into the army. This minor point is emphasized only to show how the modern interpretative biographic method may sometimes yield rather dubious interpretations.

Again, the journalist with his eye centered on the conspicuous figure of the book is perhaps less inclined than would be a scientific writer to give credit where due in exact proportions for certain phases of the yellow fever work. This aspect of the matter is particularly well reflected in an editorial analysis of this life of Gorgas, which appeared in the *Military Surgeon* for March, 1925. The analysis there made indicates that Gorgas as an administrator was slow to accept some of the scientific demonstrations of Reed, Lazear, Carroll and Agramonte, continuing the expensive disinfection of fomites for six months after their harmlessness had been demonstrated and, indeed, after another medical officer had accepted Reed's proof of this fact. Furthermore, the writer in the *Military Surgeon* points out that Reed and General Wood were already beginning to eliminate the mosquito at the time when Gorgas still hesitated. It is not perhaps entirely fair or necessary, or for that matter important, to analyze too closely the scientific data presented in this life of one of our heroes of modern sanitation.

The book gives us a picture of a kindly man with a sort of self-effacing tact, who accomplished results by rigid adherence to duty and by a persistence which, while mild, was extraordinarily effective. In the presentation of the story of the career of Gorgas, it has been well that the journalist was able to select incident and anecdote that give the story such lightness as to insure its being read. Such anecdotes as the following certainly lend color to the picture:

"Do you know, Gorgas," Colonel Goethals said one day, "that every mosquito you kill costs the United States government ten dollars?"

"But just think," answered Gorgas, "one of those ten-dollar mosquitoes might bite you, and what a loss that would be to the country!"

By far the large majority of space in this life of Gorgas is devoted to the conquest of yellow fever, the entire life of the man being portrayed as a conquest of this particular disease. On the other hand, the World War is dismissed with some twenty pages of tribute to the manner in which Gorgas apparently subordinated himself to other persons. Of the pages referred to, ten are a quotation from Dr. Franklin H. Martin, of the General Medical Board of the Council of

National Defense, which, it appears from the manner of presentation, was in charge of medical affairs during the World War.

The Gorgas-Hendrick life of Surgeon General Gorgas, while a praiseworthy effort, is in no sense of the word an adequate biography. It is representative of the journalistic form of biography in that it builds about the bare facts of a man's life a sort of anecdotal, laudatory picture that is quite out of perspective with the facts. To say this is no deprecation of the real work of one of the most notable figures in American medicine; that, of course, has had its meed of praise. It remains, however, for some one to paint a picture of the campaign against yellow fever in which the work of each of the notable figures that took part shall have its due place; it remains for some analyst of men and manners and the movements of people to show what manner of man was William Crawford Gorgas. There is yet great opportunity for a biographic writer of ability to give us a life of Gorgas that will measure with such works as those of Vallery-Radot and Stephen Paget.

THE COMMON SENSE OF MONEY AND INVESTMENTS. By Merryle Stanley Rukeyser, Financial Editor, New York Evening Journal. Cloth. Price, $1.50. Pp. 333. New York: Simon and Schuster, 1924.

The author of this volume was formerly financial and business editor of the New York *Tribune*, in which many of the sketches included in this volume first appeared. The book is written in a simple style and contains much common sense advice that would undoubtedly yield practical returns if followed. However, there seems to be innate in some men certain faculties for shrewd investment, and in others what seems to be an almost fatalistic trend toward investments that are full of folly. It is nice to read that one should save if he would be rich, and that no investment yielding more than a certain percentage is safe; but, in the golden haze of plausible promises, all good resolutions fail. One of the chapters of this book, entitled "Investment Porgrams for Rich and Poor," includes a special section for physicians and dentists. The doctor is told to beware of so-called "inside information," and he is warned for the sake of his practice against the dangers of margin speculation. He is told also that his earning power stops when death or disease overtakes him, and that he must provide, therefore, in his investments for his old age. The author suggests a practical list of bonds and stocks that yield an annual income of $366.80 on an investment of $7,000. The book will be found of great interest to all who are confronted with the problem of investment, and will be easily understandable to any one who can understand elementary arithmetic.

PRINCIPLES OF GENERAL PHYSIOLOGY. By Sir William Maddock Bayliss, M.A., D.Sc., F.R.S. Fourth edition. Cloth. Price, $8.50 net. Pp. 882, with 261 illustrations. New York: Longmans, Green and Company, 1924.

The students and friends of Sir William Bayliss, led by A. V. Hill, have cooperated in preparing the fourth edition of his well known textbook during the period when he was incapacitated by a severe illness, which led to his death, August 27, 1924. The revision has not remarkably modified the text, but has brought the bibliography down to date and includes important papers published since the third edition was issued some years ago. The Bayliss volume is without doubt the most comprehensive of physiologic textbooks. It is supported by excellent historical background. The chapters are comprehensive and well illustrated, and also provided with excellent summaries. The physician who requires a text for constant reference will probably not find a more reliable work than this.

SEVENTY-FIFTH ANNIVERSARY OF THE PHILADELPHIA COUNTY MEDICAL SOCIETY. Celebration of the Seventy-Fifth Anniversary of the Founding of the Philadelphia County Medical Society, Wednesday Evening, May 7, 1924. Cloth. Pp. 128, with 8 illustrations. Philadelphia, 1924.

The Philadelphia County Medical Society has issued an attractive volume containing the addresses delivered at a banquet in honor of its seventy-fifth anniversary, and also a reprint of the memorial held in 1899. The book is a valuable contribution to the history of medicine in Philadelphia.

Medicolegal

Lost Sponge: Expert Evidence Not Essential

(Laughlin v. Christensen (U. S.), 1 Fed. R. [2d Series] 215)

The United States Circuit Court of Appeals, Eighth Circuit, in affirming a judgment in favor of plaintiff Christensen, says that she contended that the defendant negligently left a gauze sponge in her abdomen when he operated on her. Counsel for the defendant pointed out that there was no expert testimony offered on the question of negligence and insisted that the only admissible evidence on that question would be the testimony of medical experts. That conclusion was apparently reached by arguing that medical experts were the only persons qualified to testify whether the operation was negligently performed, and that the handling of the sponges was only a part of the operation. The argument was ingenious, but it failed to persuade this court.

It is true that there is a large class of malpractice cases in which the question or matter under investigation is so intricate and abstruse, or so little understood, that ordinary jurors would in all probability know nothing about it, but must be guided by opinions of witnesses having special knowledge. In this class of cases the plaintiff fails to make a case for the jury in the absence of testimony of a properly qualified expert witness. There are, however, at least two other classes of cases dealing with the admission of expert testimony on the issue of negligence: (1) Those in which the question or matter under investigation is so simple that the jurors are as well able as experts to pass on it. Admission of expert testimony in this class of cases is error. (2) Those cases in which the question or matter under investigation is of such character that the opinion of expert witnesses thereon, though not indispensable, may yet be of material assistance to the jury. In this class of cases the admission or rejection of expert testimony rests in the sound discretion of the court. Furthermore, it is not a universal rule, even when the alleged negligence of medical men is under consideration, that testimony by experts is indispensable. A number of so-called "sponge" cases were called to the attention of this court; but in no one of them was such a rule laid down or applied.

The reason for the rule, that in certain cases the testimony of experts is indispensable to establish negligence, is that in order to reach an intelligent conclusion on the question of negligence in those particular cases a scientific exposition of the subject is obviously necessary; but when the reason for the rule ceases, the rule itself ceases. In this court's judgment, no such scientific knowledge was necessary in order to pass on the question whether the sponge was negligently left in the plaintiff's abdomen by the defendant, in the instant case. No question of science was involved. The defendant himself testified that a sponge would not be left in the plaintiff purposely, and that in fact it was dangerous to leave a sponge in the abdominal cavity after an operation. The method pursued by the defendant and his assistant to learn whether a sponge had been left in the patient was explained to the jury. The jury was competent to say whether this method was of such a kind as to constitute due care; also whether the method was carried out with due care in the instant case: in other words, whether the defendant and his assistant did in fact count the sponges after the operation and find the same number as they had before the operation. These questions required no technical skill or special training to decide.

This court was not called on in the present case to decide whether expert testimony would have been admissible, if offered, on the part of the plaintiff. The court holds that such evidence was not indispensable, and that there was sufficient evidence to go to the jury on the question of negligence on the part of the defendant.

With regard to hypothetic questions, it is the general rule that all the material facts should be embodied in a hypothetic question, if only one question is to be asked. It is also the rule that if some of the facts are in dispute, then each party

may frame his hypothetic question to include the facts as he claims the evidence shows them to be. The defendant invoked the latter rule, but it was not applicable to the hypothetic question to which it was sought to be applied because certain testimony embodied in the question was not testimony as to a fact, but consisted of the opinion of an expert who had very recently examined the plaintiff. It is the rule that it is not allowable in asking a hypothetic question to incorporate into it the opinion of another expert.

Insanity from Alcohol as a Defense to Crime—Evidence

(People v. Cochran (Ill.), 145 N. E. R. 207)

The Supreme Court of Illinois, in reversing a judgment of conviction of murder and remanding the cause, says that the jury was instructed that if the defendant at any time prior to the alleged homicide was sane and had the power to abstain from drinking intoxicating liquor and he knew such drinking would render him insane or crazy, and if while so insane or crazy he committed the homicide, it should find him guilty. The instruction was erroneous in failing to fix a definite time as to the defendant's sanity preceding the shooting. Long-continued habits of intemperance which produce permanent mental diseases amounting to insanity, which so weaken and impair the mind that one committing an offense has not mind enough at the time to know right from wrong and has not sufficient mind and power of will to refrain from doing the act, relieve a person from responsibility under the law. Insanity of this sort and thus produced is the same, in law, as insanity arising from other causes. While voluntary intoxication is not an excuse for the performance of a criminal act, yet, where intent is a necessary element of the crime, it was the rule at common law, and is the settled law of Illinois, that, where intoxication is so extreme as to suspend entirely the power of reason and the accused is incapable of forming an intent, he cannot be held guilty of such crime unless the intent was formed before the intoxication. From an examination of the authorities in Illinois and other states, the court is of the opinion that the true rule is that where intoxication is so extreme as to suspend entirely the power of reason, and the accused is incapable of any mental action, he cannot be convicted of any crime which involves intent or malice, but that he can be convicted for committing, while in such state of intoxication, a crime which consists only of the doing of acts which are prohibited by law, and in which intent, deliberation or malice is not an element.

The defendant had at one time been committed, in another state, to an asylum for the insane; and while the transcripts of the final orders adjudging him insane were competent evidence in this homicide case, this court is of the opinion that the recitals of fact as to his symptoms and as to the cause and progress of his disease were not competent evidence as to the existence of such facts.

The law was not correctly stated by an instruction that cast the burden of proving insanity on the accused, which the law did not require him to assume. The presumption of sanity is not evidence of sanity, and cannot be treated as evidence by a jury in reaching a verdict. It cannot be weighed in the scale against evidence. Its only effect is to throw on the party claiming insanity the duty of producing some evidence tending to show such insanity. It does not shift the burden of proof—meaning the obligation to sustain the truth of the claim of sanity, beyond a reasonable doubt, by evidence—which rests on the state throughout the trial. The law presumes that all men are sane; but in a criminal case whenever there is evidence introduced tending to show that the accused was insane at the time of committing the act constituting the alleged crime, the burden then devolves on the state, regardless of the presumption, to prove, beyond a reasonable doubt, by evidence, that at the time of the commission of such act the accused had sufficient mentality to distinguish between right and wrong as to that particular act, and that he was capable of exercising the power to choose between the right and the wrong, and, if the evidence fails to show both such facts beyond a reasonable doubt, it is the duty of the jury to acquit the defendant.

It was claimed by the defense that the accused was a paranoiac. Two physicians were called by the state to testify as to their opinions as to his sanity, based on observation and conversation with him. Each was asked, on cross-examination, if he knew anything about the disease known as true paranoia, whereupon the state's attorney objected on the ground that these physicians had not been called as experts but only as lay witnesses, and the objection was sustained by the trial court. But when a physician is called as a witness he becomes the same as any other witness, and is sworn, the same as any other witness, to tell the whole truth within his knowledge as to the subject with reference to which he is interrogated, and counsel for the defendant had a right, on cross-examination, to ascertain the full extent of the knowledge of these witnesses on the subject concerning which they were testifying.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Atlantic City, N. J., May 25-29. Dr. Olin West, 535 North Dearborn Street, Chicago, Secretary.

American Association for the Study of Allergy, Atlantic City, May 26. Dr. W. W. Duke, Federal Reserve Bank Bldg., Kansas City, Mo., Sec'y.

American Association for the Study of Goiter, Atlantic City, May 26. Dr. J. D. Moschelle, Odd Fellows Bldg., Indianapolis, Ind., Secretary.

American Gastro-Enterological Association, Atlantic City, May 25-26. Dr. John Bryant, 338 Marlborough Street, Boston, Secretary.

American Laryngological, Rhinological and Otological Society, Atlantic City, May 22-25. Dr. R. L. Loughran, 145 West 58th Street, New York, Secretary.

American Proctologic Society, Atlantic City, May 25-26. Dr. J. F. Montague, 540 Park Avenue, New York, Secretary.

American Psychiatric Association, Richmond, Va., May 12-15. Dr. E. D. Bond, 4401 Market Street, Philadelphia, Secretary.

American Society of Clinical Pathologists, Philadelphia, May 20-23. Dr. Ward Burdick, Metropolitan Building, Denver, Secretary.

American Therapeutic Society, Atlantic City, N. J., May 21-22. Dr. L. H. Taylor, The Cecil, Washington, D. C., Secretary.

American Urological Association, St. Louis, May 21-23. Dr. H. G. Hamer, Hume-Mansur Building, Indianapolis, Secretary.

Arkansas Medical Society, Little Rock, May 13-15. Dr. William R. Bathurst, 810 Boyle Building, Little Rock, Secretary.

Association for the Study of Internal Secretions, Atlantic City, May 26. Dr. F. M. Pottenger, Title Insurance Bldg., Los Angeles, Secretary.

California Medical Association, Yosemite National Park, May 18-21. Dr. Emma W. Pope, Balboa Building, San Francisco, Secretary.

Conference of State and Provincial Health Authorities, Montreal, Canada, June 4-5. Dr. Richard M. Olin, State Commissioner of Health, Lansing, Mich., Secretary.

Connecticut State Medical Society, Bridgeport, May 20-21. Dr. Charles W. Comfort, Jr., 27 Elm Street, New Haven, Secretary.

Georgia, Medical Association of, Atlanta, May 13-15. Dr. A. H. Bunce, 65 Forrest Avenue, Atlanta, Secretary.

Illinois State Medical Society, Quincy, May 19-21. Dr. Harold M. Camp, Lahl Building, Monmouth, Secretary.

Iowa State Medical Society, Des Moines, May 13-15. Dr. T. B. Throckmorton, Bankers Trust Building, Des Moines, Secretary.

Maine Medical Association, Bar Harbor, June 23-25. Dr. B. L. Bryant, 265 Hammond Street, Bangor, Secretary.

Massachusetts Medical Society, Boston, June 9-10. Dr. W. L. Burrage, 182 Walnut Street, Brookline, Secretary.

Medical Library Association, Atlantic City, May 25-26. Miss H. Wilson, 535 N. Dearborn Street, Chicago, Secretary.

Medical Women's National Association, Atlantic City, May 25-26. Dr. B. M. Haines, Michigan Department of Health, Lansing, Secretary.

Mississippi State Medical Association, Biloxi, May 12-14. Dr. T. M. Dye, McWilliams Building, Clarksdale, Secretary.

National Association for the Study of Epilepsy, Richmond, Va., May 11-12. Dr. A. L. Shaw, 44 Church Street, Camden, N. Y., Secretary.

Nebraska State Medical Association, Lincoln, May 12-14. Dr. R. B. Adams, 1012 Terminal Building, Lincoln, Secretary.

New Hampshire Medical Society, Manchester, May 19-20. Dr. D. E. Sullivan, 7 North State Street, Concord, Secretary.

New Jersey, Medical Society of, Atlantic City, June 18-20. Dr. J. B. Morrison, 97 Halsey Street, Newark, Secretary.

New York, Medical Society of the State of, Syracuse, May 12-14. Dr. E. L. Hunt, 17 West 43d Street, New York, Secretary.

North Dakota State Medical Asociation, Fargo, May 18-19. Dr. Alex. J. McCannel, Minot, Secretary.

North Pacific Pediatric Association, Portland, June 29. Dr. E. J. Barnet, Paulsen Building, Spokane, Wash., Secretary.

Oklahoma State Medical Association, Tulsa, May 12-14. Dr. C. A. Thompson, 308 Barnes Building, Muskogee, Secretary.

Pacific Northwest Medical Association, Portland, Ore., June 29-July 1. Dr. Frederick Epplen, Paulsen Building, Spokane, Wash., Secretary.

Radiological Society of North America, Atlantic City, N. J., May 22-23. Dr. Robert J. May, 5005 Euclid Avenue, Cleveland, Secretary.

Rhode Island Medical Society, Providence, June 4. Dr. J. W. Leech, 369 Broad Street, Providence, Secretary.

Southern Minnesota Medical Association, Owatonna, May 18. Dr. H. T. McGuigan, Red Wing, Secretary.

West Virginia State Medical Association, Bluefield, June 9-11. Mr. Sterritt O. Neale, 211 Smallridge Bldg., Charleston, Executive Sec'y.

Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to THE JOURNAL for a period of three days. No foreign journals are available prior to 1920, nor domestic prior to 1923. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested).

Titles marked with an asterisk (*) are abstracted below.

American Journal of Diseases of Children, Chicago

29: 301-432 (March) 1925

*Peroxidase Reaction in Epidemic Encephalitis. A. Sato, and S. Yoshimatsu, Sendai, Japan.—p. 301.
*Localization of Lesion in Brain by Differential Staining of Blood Smears. A. Sato, Sendai, Japan.—p. 313.
*Association of Anemia and Pneumonia in Infants. M. H. Bass, New York.—p. 318.
*Treatment of Diabetes in Children. G. L. Boyd, Toronto.—p. 329.
Evolution of Carpal Centers in White and Negro New-Born Infants. A. F. Hess and M. Weinstock, New York.—p. 347.
Protein Sensitivity in Infantile Eczema. F. J. Corper, Chicago.—p. 355.
*Typhoid Peritonitis in Infant Without Intestinal Perforation. H. M. Greenwald and H. Eliasberg, Brooklyn.—p. 365.
Diphtheria. Review of Literature for 1923. T. T. Crooks, Chicago.—p. 369.

Oxidase Reaction in Epidemic Encephalitis.—The peroxidase reaction (copper method) of Sato and Sekiya on fresh blood smears is said by Sato and Yoshimatsu to be negative (that is, all the myeloid leukocytes fail to take the stain) in typical cases of acute epidemic encephalitis, but is positive (that is, all the myeloid leukocytes take the stain) in every other disease. During convalescence from encephalitis, the reaction changes from negative to positive. The oxidase reaction of Winkler and Schultze on myeloid leukocytes of the blood is always positive in all diseases, including acute epidemic encephalitis. Animal experiments have located the brain area controlling the peroxidase reaction in the corpora striata, puncture or severe inflammation of which, as in typical acute encephalitis, produces a negative peroxidase reaction. In prognosis, the peroxidase reaction is valuable, being more favorable when positive and less favorable when negative.

Oxidase Reaction in Epidemic Encephalitis.—Acute epidemic encephalitis is the only disease in which the myeloid leukocytes in a fresh blood smear show a negative peroxidase reaction (copper method) while remaining positive under the oxidase stain (Winkler-Schultze). A bilateral puncture of the corpora striata is described by Sato which leads to a similar blood picture. This puncture has been named "peroxidase puncture." These facts have a reverse application: a patient whose blood shows this characteristic staining reaction must suffer from a bilateral lesion of the corpora striata.

Association of Anemia and Pneumonia in Children.—There is apparently a definite rationale for the employment of blood transfusion, during the course of certain cases of anemia with complicating pneumonia. For anemic children who contract pneumonia, Bass says blood transfusion is a very valuable and potent therapeutic agent. Pneumonia, in such cases, should be considered not as a contraindication to the use of transfusion, as heretofore, but as distinct indication for such treatment, especially as there is no danger involved either during or immediately following the transfusion.

Treatment of Diabetes in Children.—The indications for treatment in children, Boyd says, are the same as in adults, only more urgent, because of the acute nature of the disease in the young. Functional rest for the pancreas, to allow of all possible recovery, as provided by suitable dietetic measures, or by these plus adequate insulin administration, is the essential part of treatment. The best criterion that such rest is being given is afforded by the maintenance of a normal blood sugar and the absence of glycosuria. The treatment Boyd employs is detailed.

Typhoid Peritonitis Without Perforation.—A case of typhoid fever in an infant, aged 16 months, is reported by Greenwald and Eliasberg, complicated by a serofibrinous peritonitis without intestinal perforation. Recovery took place after laparotomy.

American Journal of the Medical Sciences, Philadelphia

169: 157-312 (Feb.) 1925

*Direct Effect of Radium Irradiation on Leukocytes. R. G. Spurling and J. S. Lawrence, Boston.—p. 157.
Case of Malignant Small Cell Thymoma with Acute Lymphoid Leukemia. A. Friedlander and N. C. Foot, Cincinnati.—p. 161.
*Heredity Factor in Pernicious Anemia. E. Meulengracht, Copenhagen.—p. 177.
*Chronic Familial Hemolytic Jaundice or Banti's Disease. C. H. Cocke, Asheville, N. C.—p. 195.
*Effect of Splenectomy in Experimental Anemia. M. Bodansky, H. C. Hartman and J. D. Gleckler, Galveston, Texas.—p. 203.
*Sedimentation Rate of Erythrocytes. I. T. Zeckwer and H. Goodell, Boston.—p. 209.
*Blood Sugar Retention in Carcinoma. T. C. Kelly, Philadelphia.—p. 216.
*Findings in Certain Cases of Obstruction of Upper Gastro-Intestinal Tract. C. S. McVicar, Rochester, Minn.—p. 224.
*Dehydration in Nutritional Disorders of Infancy. A. G. Mitchell and L. Jonas, Philadelphia.—p. 236.
Acute Posthemiplegic Choreiform Movements on Unparalyzed Side; Case. J. H. Lloyd and N. W. Winkelman, Philadelphia.—p. 247.
*Syphilis of Digestive Organs. W. E. Gatewood, Iowa City.—p. 253.
Ocular Lesions Complicating Ulcerative Colitis. B. B. Crohn, New York.—p. 260.
Ringworm of Toes in University Students. S. H. Hulsey and F. M. Jordan, Philadelphia.—p. 267.
*Heart Disease and Abnormal Electrocardiograms. H. E. B. Pardee, New York.—p. 270.

Effect of Radium on Leukocytes.—According to Spurling and Lawrence, radium irradiation of blood retained in an extremity of a dog or man, or in the vein of a dog, produced no demonstrable changes in the character or percentage numbers of the different types of leukocytes in one and a quarter hours. Likewise, the stasis of blood in an extremity or vein for a similar period of time was without effect on the leukocytes.

Heredity Factor in Pernicious Anemia.—Meulengracht points out that in attempting to discover the cause of pernicious anemia it will prove fruitful to devote more attention to the inner causes of disease, that is to the genotype. In pernicious anemia, as in any other hereditary diseases, the rôle of the genotype ought to be investigated. It is necessary to investigate behavior and frequently hereditary incidence in the various diseases. Two principal methods of study to this end, namely, the analysis of casuistics and method of statistical summation, are described and discussed in their application to pernicious anemia.

Chronic Familial Hemolytic Jaundice.—Cocke reports the case of a young woman presenting the jaundice-splenomegaly complex. There is a family incidence of a similar condition in a brother, the mother and the grandmother. An uninforming blood picture, and unknown etiology, and a symptomless course point either to Banti's disease or familial hemolytic jaundice. The difficulties of differentiation by clinical methods alone are pointed out. The increased hemolysis of the red blood cells to hypotonic salt solution points to the conclusion that hemolytic jaundice is the correct diagnosis; as in Banti's disease, if there is any change in blood resistance, it is in the nature of an increase in cells. The importance of this test is emphasized. The difficulties of a clinical diagnosis of Banti's disease until the terminal stages are reached is discussed.

Effect of Splenectomy in Anemia.—Bodansky, Hartman and Gleckler compared the onset and progress of experimental anemia in normal and splenectomized animals with particular reference to the rate of red cell destruction and to the degree of erythropoiesis as judged by the presence of normoblasts in the circulation and by changes occurring in the bone marrow. Removal of the spleen does not appear to modify appreciably the rapidity of red cell destruction due to acetylphenylhydrazin or to symmetrical di-isopropylhydrazin-hydrochlorid. Individual animals, whether splenectomized or unsplenectomized, exhibit considerable variation in the rate of recovery from anemia and in the degree of erythropoiesis during the progress of the anemia.

Sedimentation Rate of Erythrocytes. — A method is described by Zeckwer and Goodell for determining the sedimentation rate of erythrocytes. An increased rate is associated with pregnancy, malignant tumors, tuberculosis and

acute inflammatory conditions. In pathologic conditions in which there is an increased rate of sedimentation, the rate bears a relation to the amount of tissue destruction. The test is advocated as an aid in diagnosis and prognosis when used in conjunction with other procedures.

Blood Sugar Retention in Carcinoma.—In view of the great variation in the individual records of his cases, Kelly does not arrive at any satisfactory conclusion as to the value of the sugar tolerance test as a routine help in the clinical diagnosis of carcinoma. Neither the site of the disease, the extent of the process, or the general condition of the patient, seemed to show any constant index as to the degree or duration of the concentration of sugar in the blood in the seventy-nine cases in which the test was used. On the whole, Kelly is of the opinion that the blood sugar tolerance test as a clinical aid in the diagnosis of cancer is of suggestive value alone, and only when taken in conjunction with other and more positive clinical and laboratory data.

Blood Chemistry in Intestinal Obstruction. — McVicar asserts that with the toxemia of high intestinal obstruction characteristic changes occur in the chemistry of the blood, namely a rise in the blood urea, a fall in the plasma chlorids, and a rise in the carbon dioxid combining power of the plasma. By a study of the chemistry of the blood, the condition can be recognized early, the severity can be measured and the progress of treatment watched. No significant variation has been found in the concentration of the inorganic bases of the blood serum in this condition. Tetany should be considered as a possible severe complication of the toxemia, but severe toxemia may exist without tetany. Tetany may be anticipated when the carbon dioxid combining power of the plasma is found to be above 100 per cent. by volume. The administration of sodium chlorid, sugar and water has been found of value in treatment. All cases show a tendency to alkalosis, and the use of alkali in treatment is contraindicated.

Dehydration in Nutritional Disorders of Infants.—In infants who had clinical evidence of dehydration, the determination of the blood urea nitrogen, uric acid and the carbon dioxid capacity of the blood plasma made by Mitchell and Jonas showed different values, depending on whether or not the infants were suffering from toxic symptoms and hyperpnea. If no toxic symptoms were observed, the blood nonprotein nitrogen constituents, were virtually normal. If moderate toxic symptoms were present there was usually a moderate increase of nonprotein nitrogen constituents, but if the patient showed distinct evidence of toxic symptoms the blood urea nitrogen and uric acid usually were decidedly increased over normal, but the increase was neither consistent enough nor great enough to indicate that uremia was a primary cause of the fatal termination. A decrease in the carbon dioxid capacity of the blood plasma was found when the dehydrated infants showed clinical evidence of hyperpnea. The results of the study of the p_H and the carbon dioxid of the plasma would indicate that the acid-base balance was usually greatly diminished before death. However, since in several infants this did not occur, and since in several cases with equally low acid-base balance recovery followed, it would seem that the acidosis is an accompanying phenomenon and not a primary cause of either the condition or its fatal termination. The phenolsulphonephthalein elimination by the kidney corresponded to the severity of the toxic symptoms. Histologic examination of the kidneys of ten infants who came to necropsy showed little evidence of pathology. This would furnish additional proof that the retention of blood urea nitrogen and uric acid was not due to nephritis, but apparently to dehydration per se.

Syphilis of Digestive Organs.—In the medical clinic of the University Hospital of Iowa, only forty-five among 12,000 admissions were for syphilitic disease of the digestive organs. Clinical evidence of hepatic involvement during the secondary stage of syphilis occurred in only 0.21 per cent. of such cases. The clinical picture in tertiary syphilis of the liver is quite varied, and six of the seven types described by Rolleston were recognized among the twenty discussed. Only two instances of syphilitic pancreatitis were diagnosed. Less than 0.5 per cent. of organic disease of the stomach and duodenum is syphilitic.

Abnormal Electrocardiograms.—A peculiar form of the T wave of the electrocardiogram is described by Pardee. It was only found in patients of the coronary group, and only in one third of these. Another third showed other abnormalities of the ventricular waves, and the remaining third had normal waves. The cause of this coronary T wave is considered to be the secondary reaction of repair about an area of deficient blood supply in the ventricular muscle. The situation of this area is of importance, for if the branches of the auriculoventricular bundle are much involved, other abnormalities of the curve will arise and may mask the special peculiarity of T. The significance of this special T wave is discussed, and it is concluded that it only arises from coronary artery disease with narrowing of the lumen of a large branch, but that any other abnormality of the electrocardiogram may result from the same cause. If normal waves are found in a patient suspected of coronary disease, we may feel that the arterial changes are not of a marked degree.

American Journal of Ophthalmology, Chicago

8: 177-272 (March) 1925

Ophthalmoscopy with Yellow-Green Light. Visibility of Retinal Capillaries. J. S. Friedenwald, Baltimore.—p. 177.
Secondary Cataract Opening by Single Straight Incision. Iridotomy by Same Method. J. M. Wheeler, New York.—p. 179.
Lens Antigen as Factor in Congenital and Hereditary Eye Anomalies. C. W. M. Poynter and E. V. Allen, Omaha.—p. 184.
Test Chart Screen and Familiar Test Chart with Letters Reoriented. S. L. Olsho, Philadelphia.—p. 192.
Are Current Theories of Accommodation Correct? A. Duane, New York.—p. 196.
Fundus Lesions Among Filipinos. A. S. Fernando, Manila.—p. 203.
Lasting Paralysis of Accommodation After Using Cycloplegics. E. Jackson, Denver.—p. 207.
Obstruction to Central Artery of Retina During an Intranasal Operation. W. Zentmayer, Philadelphia.—p. 211.
Microphthalmos with Cyst Formation. M. F. Weyman, Los Angeles.—p. 214.
Congenital Membranous Cataract. E. K. Findlay, Chicago.—p. 216.
Newer Operative Procedures in Treatment of Glaucoma. R. H. Buck, Chicago.—p. 218.

Archives of Dermatology and Syphilology, Chicago

11: 283-424 (March) 1925

Experimental Studies in Eczema. I. Sensibility of Skin of Rabbits to Chemical Irritants. J. V. Klauder and H. Brown, Philadelphia.—p. 283.
Eczema and Dermatitis. W. J. Highman, New York.—p. 303.
*Cactus Spine Pseudotubercle Case Associated with Lupus Vulgaris, Pulmonary and Laryngeal Tuberculosis. R. E. Barney, Ann Arbor, Mich.—p. 331.
*Acnitis; Bacteriologic Findings. J. F. Schamberg and M. J. Harkins, Philadelphia.—p. 339.
Cultural Requirements of Acne Bacillus. L. W. Ketron and E. L. Burky, Baltimore.—p. 354.
Dermatitis Gangrenosa Infantum: Case. H. V. Dwyer and G. H. Klinkerfuss, St. Louis.—p. 368.

Cactus Spine Pseudotubercles.—In the case cited by Barney in association with true pulmonary phthisis, laryngeal tuberculosis and lupus vulgaris, there occurred lesions resembling cutaneous tuberculosis and blastomycosis, which, however, proved to be cactus spine foreign body tubercles.

Acnitis.—Smears made by Schamberg and Harkins from the purulent exudate from an open acne lesion revealed the presence of staphylococci and a gram-negative bacillus. A fragment of a nonulcerated nodule grown in a special anaerobic medium yielded three organisms, one of which was this bacillus—*Bacillus X*. This bacterium did not primarily grow in aerobic cultures. An emulsion of the excised nodule injected into the peritoneal cavity of two guinea-pigs produced in the animal receiving the larger dose a generalized pustulocrustaceous eruption followed by ulceration, appearing on the twenty-second day. *Bacillus X* was recovered in culture from the cutaneous lesions and from the peritoneum and heart blood. Efforts to produce an eruption in guinea-pigs by the intraperitoneal and intravenous injection of a culture of *Bacillus X* failed, although the organism was virulent and caused death in both guinea-pigs and rabbits. Agglutination tests carried out with *Bacillus X* and the patient's blood serum were negative. The complement-

fixation test, however, made with the patient's serum and an antigen consisting of a heavy suspension of *Bacillus X* in salt solution, gave a distinctly positive reaction, +3, +1. With a normal control serum, the test was negative.

Archives of Otolaryngology, Chicago

1: 267-366 (March) 1925

Treatment of Chronic Middle Ear Suppuration. A. Blalock and S. J. Crowe, Baltimore.—p. 267.
What Can Be Heard Without Cochlea and Problem of Determining Monaural Deafness. G. E. Shambaugh, Chicago.—p. 272.
Syndrome of Avellis: Three Cases. C. J. Imperatori, New York.—p. 277.
Staphylococcus Septicemia Secondary to Mastoiditis and Sigmoid Sinus Thrombosis: Case. H. I. Lillie and J. B. Stevens, Rochester, Minn. —p. 283.
Radium Emanation in Carcinoma of Larynx. S. Salinger, Chicago.—p. 286.

Boston Medical and Surgical Journal

192: 519-580 (March 19) 1925

*Possibilities of Insulin in General Practice. R. Fitz, Boston.—p. 519.
Studies on Mechanism of External Pancreatic Secretion. C. W. McClure, O. C. Montague and L. L. Campbell, Boston.—p. 527.
Age as Factor in Diabetic Mortality. J. W. Thomson, Boston.—p. 532.
Hyperbilirubinemia in Diseases of Biliary Tract. M. F. Fallon, W. F. Lynch and J. J. Dumphy, Boston.—p. 536.
Clinical Application of Recent Studies in Jaundice. S. C. Harvey, New Haven, Conn.—p. 540.
*Study to Determine Presence of an Osteopathic Lesion in Disease of Recognized Pathology. W. P. Murphy and P. T. Wilson, Boston.—p. 543.

Insulin in Coma.—Coma, says Fitz, is the chief diabetic emergency which the general practitioner is called on to treat. The physical signs of coma are important in the early diagnosis and there must be manifestations of acidosis and glycosuria to justify the diagnosis. Coma must be treated as soon as possible after the diagnosis is established for the longer the duration of coma before treatment is instituted the worse the prognosis. The treatment of coma is simple and satisfactory. Large doses of insulin, plenty of fluid and good nursing care are the essentials.

Structural Abnormality and Disease.—Several rather obvious points concerning structural abnormality are brought out by Murphy and Wilson in charts and tables submitted, which represent the results of the examination of the vertebral column of 187 patients in the wards of the Peter Bent Brigham Hospital by two of five men working at various times. Muscle spasm and tenderness along the vertebral column was found in this group of cases to be too variable and unreliable to be recorded as a definite and separate structural maladjustment. Structural maladjustments were found scattered indiscriminately along the vertebral column especially in the upper half of the dorsal spine and regardless of the disease process from which the patient was suffering. No predominant structural abnormality was found in any series of patients suffering from a given perversion of function (disease).

Colorado Medicine, Denver

22: 81-124 (March) 1925

Rôle of Thoracoplastic Surgery in Treatment of Pulmonary Tuberculosis. W. H. Thearle, Denver.—p. 83.
Heliotherapy in Treatment of Tuberculous Laryngitis. A. M. Forster and S. J. Chapman, Colorado Springs.—p. 90.
Postoperative Ileus. L. I. Miller, Denver.—p. 93.
Bovine Tuberculosis in Colorado. J. J. Waring, Denver.—p. 103.
Diphtheria in Infants. J. E. Russell, Jr., Denver.—p. 104.
Fractures in Forearm: Extension in Treatment. G. W. Miel, Denver. —p. 112.
Roentgen Ray in Treatment of Impaired Hearing. L. B. Lockard and A. J. Argall, Denver.—p. 114.
Influence of Diet from Fetal to Adult Life. F. P. Gengenbach, Denver. —p. 117.

Florida Medical Association Journal, St. Augustine and Jacksonville

11: 139-166 (Dec.) 1924

Ethylene-Oxygen Anethesia. G. Day, Jacksonville.—p. 139.
Trauma of Female Pelvic Organs. T. M. Rivers, Kissimmee.—p. 144.
Indications for Mastoidotomy. B. F. Hodsdon, Miami.—p. 148.
Relation of Trauma to Malignancy. R. B. Harkness, Lake City.—p. 152.
Menstruation from New Viewpoint. A. Young, Tallahassee.—p. 157.
Treatment of Septicemia and Local Infections by Intravenous Injections of Acridine Compound Neutral Acriflavine. J. C. Davis, Jr., Quincy. —p. 160.

Indiana State Medical Association Journal, Ft. Wayne

18: 89-124 (March 15) 1925

*Action of Stronger Solutions of Mercurochrome in Early Gonorrheal Infections. E. Rupel, Indianapolis.—p. 89.
*"Biliousness." F. Smithies, Chicago.—p. 90.
Early Signs of Lung Tuberculosis. C. F. Hoover, Cleveland.—p. 96.
Choosing Your Healer. S. I. Arthur, Patoka.—p. 98.

Mercurochrome-220 Soluble in Gonorrhea.—Mercurochrome-220 soluble in 5 per cent. solution has been used by Rupel in 104 early cases of gonorrheal infection. There is no evidence of harm having been done by the procedure. The duration of trouble is shortened considerably and the discharge is reduced to a minimum.

Biliousness.—Smithies says that 44 per cent. of affections of the biliary tract are accompanied by the presence of the streptococcus group, the common "rheumatoid" concomitants. Over long intervals it is his practice to administer daily from 30 to 60 grains (2 to 4 gm.) of soda and a salicylate preparation, preferably toward night.

Johns Hopkins Hospital Bulletin, Baltimore

36: 1-97 (Jan.) 1925

In Memorium, William Stewart Halsted. An Appreciation. R. Matas, New Orleans.—p. 2.
Personal Appreciation of Dr. Halsted. F. M. T. Tinney.—p. 28.
Id. W. H. Welch, Baltimore.—p. 34.
*Studies in Experimental Epilepsy. W. E. Dandy and R. Elman, Baltimore.—p. 40.
Dr. Halsted's Friday Clinics. M. R. Reid, Cincinnati.—p. 50.
Case of Reverdin Skin Grafting Exhibited in Dr. Halsted's Clinic on Wound Healing. M. Brödel.—p. 60.
*Types of Congenital Heart Disease Interpreted as Intracardiac Arteriovenous and Veno-arterial Fistulae. I. Patent Ductus Arteriosus. E. Holman, Cleveland.—p. 61.
Blind-End Circular Suture of Intestine (Halsted Method). W. F. Rienhoff, Jr., Baltimore.—p. 81.

Experimental Epilepsy.—The most striking fact shown by the experiments made by Dandy and Elman is that from a third to a seventh of the dose of absinthe required to produce convulsions in normal cats will incite attacks when the motor cortex has been injured several weeks previously. The experiments show conclusively that injury to the cerebellar and occipital lobes is far less effective in making the animal susceptible to convulsions than is injury to the motor cortex. When the minimal convulsive dose is given to an animal with injured motor cortex, unilateral convulsions will develop, and without loss of consciousness. These are comparable to petit mal attacks in human epilepsy. Another fact observed is the difference in the character of onset of convulsions in cats with motor injury, and those of normal cats. In the normal cats, pronounced restlessness and irritability precede a convulsion, as if the whole nervous system were affected by the drug, and the convulsions were only a part of this general process. But in cats with healed motor defects, this preliminary irritability does not appear, the convulsions suddenly developing without warning in a placid and normally composed animal.

Patent Ductus Arteriosus.—Twenty-eight cases of patent ductus arteriosus were studied by Holman. The cases were uncomplicated by other congenital anomalies, such as a patent foramen ovale, defective interventricular septum, pulmonary stenosis, atresia of the aorta or valvular defects. The changes found may, therefore, be ascribed solely to the presence of the patent ductus. In sixteen cases the evidence indicates that the flow occurred from pulmonary artery to aorta, and these cases are classified as Type I. In this group, the right heart showed an abnormal development, in most instances equal to, and in several cases in excess of, the left heart. A dilated tricuspid ring, a dilated pulmonary artery and a dilated aorta beyond the entrance of the patent ductus, were recorded as characteristic of this group. In nine cases the evidence indicates that the flow of blood occurred from aorta to pulmonary artery, and these are classified as Type II. These cases showed a preponderance hypertrophy of the left heart, with a dilated aorta to the point where the ductus was given off. Three cases are also cited in which there were no cardiac changes. Their absence

may be attributed to the narrowness of the canal which permitted only a small volume of blood to be deflected through the opening. The evidence furnished by these clinical observations indicates that the heart and large vessels will accommodate themselves to an increased flow through them, both by dilatation and by hypertrophy, the hypertrophy of the heart being a response to the increased effort necessary to advance an increased flow through its chambers per unit of time.

36: 99-174 (Feb.) 1925

*Acute Rheumatic Disease of Heart. W. S. Thayer, Baltimore.—p. 99.
Section of Sensory Root of Trigeminal Nerve at Pons. W. E. Dandy, Baltimore.—p. 105.
Pathological Histology of Experimental Carbon Tetrachlorid Poisoning. G. H. Gardner, R. C. Grove, R. K. Gustafson, E. D. Maire, M. J. Thompson, H. S. Welland and P. D. Lamson, Baltimore.—p. 107.
*Scarlet Fever. II. Use of Convalescent Scarlet Fever Serum and Dochez' Scarlatinal Antistreptococcic Serum for Treatment. K. E. Birkhaug, Baltimore.—p. 134.

Acute Rheumatic Disease of Heart.—Twenty-five cases which appeared to be of indisputably pure rheumatic origin without demonstrable complicating bacterial septicemia are reviewed by Thayer. In 68 per cent. of the cases, infected tonsils or pharyngeal adenoids were noted. Five of the twenty-five patients showed peridental infection. In 72 per cent. of the cases there was a polyarthritis during the attack, and in an equal number there was a history of preceding arthritis. Every patient had had arthritis during the attack or previously, save one, a child of 7 with a mild acute chorea and grave myocardial changes dating from a previous attack. In those cases which did not begin with a polyarthritis, and in some of those which did, the onset was usually rather vague and indefinite, associated with the general symptoms of an acute infection. In a surprisingly large proportion of the cases the arthritic symptoms were slight. The disease was one of the heart rather than of the joints. Especially significant was the presence of unaccountably persistent fever in association with chorea or mild atypical arthritis. Renal infarctions were found post mortem in three cases. Thrombi in the auricular appendages were noted in five cases. Pulmonary infarctions were observed in three cases, in one of which there was auricular fibrillation. Albuminuria was the rule, occurring in eighteen of twenty-two cases in which notes were made. Death occurred almost invariably with myocardial insufficiency and dilatation of the heart. Either acute or chronic myocardial changes occurred in all of the twenty-four cases in which the heart muscle was available for examination.

Serum Therapy of Scarlet Fever.—The comparative value of (*a*) convalescent scarlet fever serum, and (*b*) Dochez' scarlatinal antistreptococcic serum in the treatment of severe cases of scarlet fever was studied by Birkhaug. Thirty-seven cases of scarlet fever were treated by intramuscular injections of from 15 to 85 c.c. of serum from convalescent cases of scarlet fever. A rapid improvement in the general symptoms with a slight fall in temperature and pulse rate, but no effect on the general rash, was noted, but convalescence was not shortened nor the incidence of septic complications during convalescence reduced. A comparative study of thirty-one cases of scarlet fever showed that the intramuscular injection of Dochez' scarlatinal antistreptococcic serum in amounts of 40 c.c. administered during the first three days of the disease caused a prompt disappearance of the toxemia, a critical fall in temperature and pulse rate, prompt fading of the general exanthem, rapid reduction in leukocytosis and rapid disappearance of the glandular enlargement. A therapeutic dose of 40 c.c. of Dochez' serum was sufficient to bring about a clinical cure in moderately severe cases of scarlet fever. The incidence of septic complication was low in the cases treated with Dochez' serum, prior to the fourth day of disease. The cases presenting septic complications yielded slowly and irregularly to Dochez' serum.

Journal of Clinical Investigation, Baltimore

1: 217-316 (Feb. 20) 1925

*Action of Pituitary Extract on Heart of Unanesthetized Dog. W. G. Resnik and E. M. K. Geiling, Baltimore.—p. 217.
Action of Pituitary Tartrate on Heart of Unanesthetized Dog. W. G. Resnik and E. M. K. Geiling, Baltimore.—p. 239.
*Carbohydrate Metabolism in Nephritis. G. C. Linder, A. Hiller and D. D. Van Slyke, New York.—p. 247.
*Studies in Scarlet Fever. I. Blanching Phenomenon. K. E. Birkhaug, Baltimore.—p. 273.
*Blood Pigments in Pernicious Anemia. G. O. Broun, O. Ames, S. Warren and F. W. Peabody, Boston.—p. 295.

Effect of Pituitary Extract on Heart.—Experiments made by Resnik and Geiling showed that pituitary extract effects the heart (*a*) by stimulation of the vagi through the cardio-inhibitory center, and (*b*) by a direct action on the myocardium. There is, possibly, an indirect action on the sympathetic nerve endings during the secondary rise, through stimulation of the suprarenals by asphyxia. Similarities between the effects of pituitary extract and of anoxemia on the heart were noted.

Carbohydrate Metabolism in Nephritis.—In an attempt to obtain further information on the incidence and significance of the hyperglycemia, which has sometimes been observed in nephritis, Linder, Hiller and Van Slyke have studied the changes in the sugar content of the blood and urine of patients with nephritis, and their respiratory metabolism following the oral administration of glucose. In glomerulonephritis with severe renal insufficiency the blood sugar curves, after glucose was given by mouth, showed an exaggerated and prolonged rise, and glycosuria occurred. In the terminal stage hyperglycemia and glycosuria were present in the fasting state, the threshold for sugar being reduced. In glomerulonephritis without severe renal insufficiency, and in chronic nephrosis, no substantial abnormality of the blood sugar was found either during fasting or after glucose feeding. In nephrosclerosis, with little or no renal insufficiency, the fasting blood sugar was close to the upper limit of normal, and the rise after glucose was slightly higher and more prolonged than normal. The threshold appeared to be raised. The rate of increase in the respiratory quotient after glucose ingestion indicated that combustion of carbohydrate was as rapid in the patients of all types as in normal subjects. The delay in the fall to normal blood sugar levels after glucose ingestion, noted in nephrosclerosis and severe glomerulonephritis is attributed to some factor, such as retarded glycogen formation, other than failure to burn the sugar.

Blanching Phenomenon in Scarlet Fever.—Serum from normal persons, without history of scarlet fever or general septic infections, produced the Schultz-Charlton rash extinction phenomenon in four of six cases tested by Birkhaug on the second day of the rash and in one of seven cases tested on the third day of the rash. Serum from convalescent scarlet fever patients produced the Schultz-Charlton rash extinction phenomenon in twenty-four of twenty-seven cases tested, or 89 per cent., during the first sixty hours of the rash, but did not cause blanching seventy hours after the appearance of the rash. Dochez' serum produced the Schultz-Charlton rash extinction phenomenon in forty cases, or 100 per cent., during the first sixty hours of the rash. It continued to produce blanching seventy hours after the appearance of the rash, but did not blanch eighty hours after the appearance of the rash. This indicates that Dochez' serum possesses the same specific property that is found in normal and convalescent serum but contains this specific property in considerably greater concentration. Blood serum from scarlet fever patients first showed the property of producing the Schultz-Charlton rash extinction phenomenon about the eighth day of the disease. Epinephrin, normal horse serum and diphtheria antitoxin failed consistently to produce the Schultz-Charlton rash extinction phenomenon in scarlet fever. Normal human serum, convalescent scarlet fever serum and Dochez' serum failed consistently to produce blanching reactions in other eruptive diseases. Rash extinction areas were directly proportional in size to the amount of serum injected.

Blood Pigments in Pernicious Anemia.—Observations on the blood pigments and their possible significance in relation to blood destruction are discussed by Broun and others. It is said that high values for plasma bilirubin occur con-

stantly in pernicious anemia during periods when the disease is active. They are of considerable diagnostic aid in distinguishing this disease from certain secondary anemias. Certain cases of pneumonia, streptococcus septicemia, typhoid fever, tropical sprue and hemolytic jaundice give plasma bilirubin findings similar to those met with in pernicious anemia. The regular occurrence of a "delayed" direct diazoreaction in pernicious anemia serves to distinguish it from anemias associated with jaundice due to liver or bile duct lesions. In the latter conditions, the plasma bilirubin gives a "prompt" direct diazoreaction. The plasma bilirubin curve in pernicious anemia usually rises during periods of exacerbation of the clinical symptoms, and falls to more normal levels during periods of remission. This phenomenon tends to support the view that pernicious anemia is associated with increased blood destruction. Following transfusion, a reduction in the plasma bilirubin is generally observed. An ether soluble pigment may also be present in the plasma of cases of pernicious anemia. When found in any considerable quantity it constitutes a serious prognostic sign. It occurs in largest amount post mortem.

Journal of Immunology, Baltimore

10: 1-431 (Jan.) 1925

*Serologic Classification of B. Botulinus. II. Agglutination. P. Schoenholz and K. F. Meyer, San Francisco.—p. 1.
*Agglutinin Absorption. C. Krumwiede, G. Cooper and D. J. Provost, New York.—p. 55.
*Complement Fixation Reaction in Tuberculosis. A. Wadsworth, F. Maltaner and E. Maltaner, Albany, N. Y.—p. 241.

Serologic Classification of Bacillus Botulinus.—The 104 strains of *B. botulinus* types A and B included in the investigation reported on by Schoenholz and Meyer were isolated from human and animal outbreaks, from infected home and commercially canned food products, and from soil, plants, etc., collected throughout the United States and in Canada. The data at hand indicate that a culture of *B. botulinus* is made up of variants which exist side by side. Some may predominate at one time, some at another, and in the course of time, through continued picking, certain pure lines may be produced, which if stable in character may breed true. No strain has been encountered which was permanently inagglutinable and then in the course of time became agglutinable, although some cultures have been studied which were partially or poorly flocculated but finally produced only agglutinable antigens. In the light of these facts, it is quite evident that a serologic classification of *B. botulinus* or any other anaerobe should be based on the study of a large number of strains, tested and retested over a fairly long period of observation.

Agglutination Absorption.—The extensive research made by Krumwiede, Cooper and Provost leads to the conclusion that there is no other means of measuring the specific agglutinin content of a serum except by using the bacterial type, which is known to have stimulated the production of the agglutinins in a serum even though this means may not always be adequate. There is no basic validity, therefore, in a procedure which assumes the reliability of determining the infecting bacterium or bacteria by testing the absorptive capacity of several cultures on the agglutinins present in the patient's serum for each of such cultures. Such a procedure does not take into account all the possible alternatives. The observation of the character of the clumping and the use of the specific component for test purposes may give strongly suggestive results.

Complement Fixation Reaction in Tuberculosis.—A specific reaction to the tubercle bacillus was demonstrable by Wadsworth, Maltaner and Maltaner in the blood serum of animals following inoculation, but it varied greatly, and apparently it often failed to develop in sufficient degree to be clearly detected with the complement fixation test. It was well marked in the spontaneous and experimental infections of cattle. The most satisfactory immune serum for the standardization of antigens and the reagents of the test was obtained by the inoculation of horses, intravenously, with living cultures of the tubercle bacillus. The specific reaction in the great majority of cases of human pulmonary tuberculosis was readily demonstrated, but in a few unquestionable cases of active tuberculosis, the reaction apparently failed to develop. In many cases, the reaction was of such slight degree that only by the most precise titration could it be differentiated from the reactions which took place with the serum of nontuberculous subjects. Thus it is that in a test, such as was developed in the course of this study, a serum complement titration is considered to be essential to determine the diagnostic significance of the reaction of complement fixation in tuberculosis.

Journal of Industrial Hygiene, Boston

7: 47-104 (Feb.) 1925

Industrial Hygiene in Moscow. A. Hamilton and R. E. Hilles, New York.—p. 47.
Opportunities for Industrial Service in General Hospital. D. C. Parmenter, Boston.—p. 62.
Anatomic Distribution of Occupational Cancers. E. L. Kennaway, London.—p. 69.

Michigan State Medical Society Journal, Grand Rapids

24: 145-186 (March) 1925

Treatment of Asthma by Removal of Its Pathology. B. F. Walters, St. Paul, Minn.—p. 145.
Value of Roentgen-Ray Diagnosis in Gastro-Intestinal Lesions. V. M. Moore, Grand Rapids.—p. 148.
Retropharyngeal Abscess. S. E. Barnett, Detroit.—p. 150.
*Use of Insulin in Pernicious Vomiting of Pregnancy. G. M. LeFevre, Muskegon.—p. 153.
Factors in Race Problem. J. H. Dempster, Detroit.—p. 155.
System Causes of Deafness. D. M. Campbell, Edinburgh, and J. M. Carter, Detroit.—p. 160.
*Suprarenal Tuberculosis: Case. R. Siersma, Grand Rapids.—p. 163.

Insulin in Pernicious Vomiting of Pregnancy.—Le Fevre finds that insulin can be used successfully in pernicious vomiting of pregnancy in the presence of acidosis due to ketones in the blood. It can be used in larger doses than its ability to burn carbohydrates would indicate.

Suprarenal Tuberculosis.—Siersma reports the case of a patient with tuberculosis of the suprarenals, who was apparently in good health a week previous to his death. Necropsy showed the glands to be completely destroyed except for a very small portion of the cortex, which could hardly be recognized and which scarcely took the stain. The process was one of long standing. No other tuberculous focus was found. A pleurisy occurring twenty-two years previously might have been of tuberculous origin. This patient did not suffer from anemia. Pigmentation of the skin, another very common finding in Addison's disease, was also absent, except for areas of pigmentation in the oral cavity. This is in keeping with the observations of various writers that "cases unattended by bronzing of the skin are often rapidly fatal."

Minnesota Medicine, St. Paul

8: 139-202 (March) 1925

Hepatic Functional Tests in Experimental Jaundice. A. M. Snell, Rochester.—p. 139.
Functional Tests in Hepatic Disease. C. H. Greene, Rochester.—p. 142.
Surgical Significance of Hepatic Function. W. Walters, Rochester.—p. 146.
Treatment of Congenital Cleft Lip and Palate. R. E. Farr, Minneapolis.—p. 149.
*Newer Idea of Infection in Nervous Disease. W. H. Hengster, St. Paul.—p. 154.
Surgical Accidents in Simple Inguinal Hernioplasty. E. C. Robitshek, Minneapolis.—p. 160.
Progress of Cardiology During 1924. F. A. Willius, Rochester.—p. 165.
Preoperative Treatment of Hypertrophy of Prostate. G. J. Thomas, Minneapolis.—p. 171.
Tracing Infections in a Surgical Service. A. N. Collins and F. Ritz, Duluth.—p. 181.

Infection in Nervous Disease.—Hengster emphasizes the fact that the nervous system is subject to infection like all other tissues of the body. There are four main pathways of infection in the nervous system; i. e., air passages, blood, lymphatics and direct extension. Infection of any kind is an important contributory cause of organic and functional nervous disease, but is not the sole etiologic factor. Certain acute specific febrile infections have a curative effect on mental disorders, but so far this has no scientific basis. The use of tertian malaria in the treatment of general paresis appears to give an increased percentage of remissions.

Nebraska State Medical Journal, Norfolk

10: 73-112 (March) 1925

Fundamental Principles of Roentgen-Ray Diagnosis in Diseases of Pleurae and Lungs. A. F. Tyler, Omaha.—p. 73.
*One Hundred Cases of Cardiac Irregularities Due to Extrasystoles. A. L. Smith, Lincoln.—p. 78.
*Rupture of Spleen: Case. J. F. Langdon, Omaha.—p. 83.
Ileus. V. V. Smrha, Milligan.—p. 88.
Modern Aspects of Nutrition. V. E. Levine, Omaha.—p. 91.
Surgery of Kidney. J. M. Willis, McCook.—p. 95.
Scarlet Fever. W. B. Moody, Omaha.—p. 98.
Suppurative Destruction of Thyroid with Resulting Myxedema: Case. M. B. Wilcox, North Platte.—p. 100.

Cardiac Irregularities Due to Extrasystoles.—Smith says that normal rhythm was quickly restored after the withdrawal of the etiologic factor in the twenty-seven patients in whom the extrasystole was due to coffee, tea, cocoa, tobacco, acetylsalicylic acid, digitalis or strychnin. In the thirty-one cases with infections and toxemias outside the heart, twelve were restored to normal rhythm by removal of the infections, the other nineteen have extrasystoles at varying intervals. In the miscellaneous group, a patient with hyperthyroidism was placed on quinin and ergot, and after the return of the basal metabolism to normal, the arrhythmia disappeared. Of three influenza patients, two are normal and one has intermittent extrasystoles; in four highly neurotic patients, no change in the rhythm followed treatment, and in the one due to mental over-work, rhythm has been restored. In the fourteen cases in which no cause could be assigned, six are normal after administering potassium iodid and sodium bromid, while the other eight are unchanged. Thus in 100 cases of extrasystoles, fifty-six have been restored to normal rhythm, while forty have changed little and four patients have died.

Subcapsular Rupture of Spleen.—Langdon cites a case of subcapsular rupture of the spleen in which conservative treatment was followed. The patient was kept in bed, ice applied, and gradually distention and pain were relieved. Tenderness was marked, and persisted to the time of discharge from the hospital, fourteen days after the injury. No blood findings were recorded in this case.

New Jersey Medical Society Journal, Orange

22: 75-112 (March) 1925

Cranking or Chauffeur's Fractures. E. L. Eliason, Bridgeton.—p. 75.
Fracture of Wrist. F. W. Shafer.—p. 82.
Postoperative Pulmonic Emboli. G. K. Dickinson.—p. 84.
Human Nature and Personal Equation in Practice of Medicine. B. B. Ranson, Jr., Maplewood.—p. 88.

New York State Journal of Medicine, New York

25: 355-412 (March 6) 1925

Treatment of Lobar Pneumonia with Pneumococcus Antibody Solution. R. L. Cecil, New York.—p. 355.
*What Types of Puerperal Infection Require Surgical Treatment? J. O. Polak, Brooklyn.—p. 358.
Modern Application of Version. H. C. McDowell, Buffalo.—p. 362.
Thrombosis of Retinal Veins. M. L. Lerner, Rochester.—p. 365.
*Appendicitis in Asthma and Other Forms of Allergy. W. Lintz, Brooklyn.—p. 368.

Treatment of Puerperal Infection.—The treatment in puerperal infection, Polak says, depends on the pathologic diagnosis, and because of nature's protective processes, it must be expectant and supportive, rather than surgical. Surgical measures have their only field in the incision and drainage of parametric abscesses and in local spreading peritonitis.

Appendicitis, Asthma and Allergy.—In a study of 300 consecutive office patients suffering from allergy, Lintz found that as a class they are operated on more than any other class of individuals. Some of the members of this group were operated on as high as thirteen times without benefit. Lentz insists that in patients with indigestion and right-sided abdominal pain, allergy should be ruled out.

25: 413-468 (March 13) 1925

*Kala-Azar in an Infant. M. Wollstein, New York.—p. 413.
Origin and Radiation of Pain in Serous Membranes and Its Value in Diagnosis. J. A. Capps, Chicago.—p. 418.
*High Blood Pressure Treated with Sensitized Colon Vaccine. J. F. Bicak, New York.—p. 419.
Chronic Arthritis. B. P. Riley and E. E. Smith, New York.—p. 422.

Kala-Azar in Infant.—A case of visceral leishmaniasis or kala-azar in an infant, aged 21 months, born in Palermo, is reported by Wollstein. It is the third American case recorded in a child, and the first one to come to necropsy. These three children came to the United States from the endemically infected regions about the Mediterranean coast (Greece and Italy) and lived in Boston, San Francisco and New York, respectively. Noma of the cheek appeared three weeks before death. During life, Leishman-Donovan bodies were found in the bone marrow. After death, Leishman-Donovan bodies were found in spreads from the spleen and liver and in sections from the liver, spleen and kidneys.

Use of Colon Vaccines for High Blood Pressure.—Believing that high blood pressure is caused by the toxins of the colon bacillus, Bicak treated twenty-four cases by subcutaneous injection of a sensitized vaccine of the colon bacillus, 2,000,000,000 to the cubic centimeter. The injections varied from one-half to 5 minims; the first injection was usually 2 minims. The injections were given every two to seven days. The vaccine was given in the mildest cases only. The other patients received thyroid, oxgall and *Bacillus acidophilus*, and a few with the most severe cases received small doses of nitroglycerin. Improvement was prompt in all the cases and marked in most. In two cases of diabetes the pressure improved as well as in the rest. Apparently, the cause of the hypertension was the same as in the others. Several of the patients became uncomfortable when the pressure came down very fast, but this was temporary and the treatment was soon resumed.

Philippine Islands Medical Association Journal, Manila

4: 445-484 (Dec.) 1924

Gastro-Enterostomy in Advanced Cases of Carcinoma of Stomach. P. Gauzon.—p. 445.
Ankylostomiasis. II. C. Manalang.—p. 449.
Diseases of Skin from Standpoint of Protozoologist. F. G. Haughwout.—p. 457.
Pail Conservancy System: History and Operation. S. Arteaga, Manila.—p. 464.

5: 1-36 (Jan.) 1925

Clinician of Present Time. A. G. Sison.—p. 1.
Measure of Force of Mortality During Last Decade in Philippines. E. G. Padua.—p. 4.
Philippine Fruits and Vegetables Suitable for Dietetic Treatment of Diabetes. I. Concepcion.—p. 17.
*Spectacular Effect of Ether Anesthesia on Myoclonic Encephalitis. A. Bautista and A. B. M. Sison.—p. 21.
Health Inspection of School Children. S. L. Orosa.—p. 23.

Effect of Ether Anesthesia on Myoclonic Encephalitis.—Bautista and Sison report a case in which the breaking of a needle in the intervertebral space during lumbar puncture was the cause for originating a new line of therapy in hyperkinetic encephalitis. This accident led to finding an effective means of controlling, in a measure, the continuous purposeless movements present in myoclonic encephalitis.

Rhode Island Medical Journal, Providence

8: 35-50 (March) 1925

Other Nine-Tenths or Further Gastro-Intestinal Considerations. W. L. Chapman, Providence.—p. 35.
Use of Insulin in Diabetes. A. M. Burgess, Providence.—p. 38.

South Carolina Medical Association Journal, Greenville

21: 57-80 (March) 1925

Diseases of Biliary System. C. J. Lemmon, Sumter.—p. 60.
Diagnosis and Management of Ureteral Strictures and Ureteral Stones. E. G. Ballenger and O. F. Elder, Atlanta, Ga.—p. 61.
Administration of Chlorin in Diseases of Respiratory Tract. W. H. Frampton, Charleston.—p. 66.

U. S. Naval Medical Bulletin, Washington, D. C.

22: 257-400 (March) 1925

Plea for Basic Medical Experience Prior to Specialization. E. R. Stitt.—p. 257.
*Paravertebral Anesthesia and Its Successful Adaptation to Kidney Operations. W. S. Pugh.—p. 292.

*Lymphadenosis, an Acute Benign Disease Simulating Acute Leukemia. E. C. White.—p. 302.
Two Years at Receiving Building, Naval Training Station, Newport, R. I. R. A. Nolan and T. R. Leonard.—p. 307.
Heart Block Case. H. E. Hill.—p. 316.
Aberrant Pancreas of Pylorus; Case Resembling Neoplasm. R. M. Choisser.—p. 322.

Paravertebral Anesthesia for Kidney Operations.—Pugh advocates paravertebral anesthesia with procain in the performance of kidney operations. He feels that the greatest hope for the future development of surgery on the diseased kidney lies in the perfection of less toxic drugs for the induction of regional anesthesia and of methods of introducing them. His method of inducing anesthesia is said to be much more comfortable and certain than any method previously suggested.

Lymphadenosis.—A disease is described by White which resembles in many ways acute leukemia. It is a definite disease entity and has been variously named by different observers. Local symptoms are usually limited to throat, mouth and glands of the neck. Systemic symptoms are fever and a marked lymphocytosis. It differs from acute leukemia in the absence of anemia, in the comparatively rapid recovery of the patient and in the morphology of the pathologic blood cells. The etiology is unknown, but organisms of Vincent's angina are present in a large proportion of cases. It is an acute infection and, therefore, of special interest as potentially epidemic, for this has been the history of other rare infectious diseases. A case is described in which recovery was apparently markedly hastened by the intravenous use of mercurochrome-220 soluble.

Virginia Medical Monthly, Richmond

51: 735-802 (March) 1925

*Compound Solution of Iodin in Treatment of Exophthalmic Goiter. I. A. Bigger, University, Va.—p. 735.
Treatment of Diabetes Mellitus. H. B. Mulholland, University, Va.—p. 737.
Radium in Treatment of Certain Nonmalignant Gynecologic Conditions. W. L. Peple, Richmond.—p. 742.
Function of Perineum and Its Restoration When Injured. C. R. Robins, Richmond.—p. 745.
Ectopic Pregnancy: Analysis of Ninety-Five Cases. F. Helvestine, Jr., University, Va.—p. 747.
Concentrated Milk Feeding (Acid Milk) in Young Infants. G. T. Grinnan, Richmond.—p. 750.
Intravenous Use of Arsenic (Arsphenamin) in Certain Septic Conditions. J. H. Smith, Richmond.—p. 755.
Review of Operations on Thyroid. J. S. Horsley, Richmond.—p. 762.
Practical Method of Blood Vessel Suture. E. L. Kendig, Victoria.—p. 765.
Tuberculosis Clinic Work. E. C. Harper, Richmond.—p. 768.
*Toxic Blindness: Two Cases. C. P. Jones, Newport News.—p. 773.
Epidermoid Carcinomas of Skin. S. W. Budd, Richmond.—p. 776.
Why Are So Many Physicians Such Easy Marks for Fake Promoters? J. M. Miller, Crockett.—p. 780.
Nervous and Mental Manifestations Following Chronic Intoxication with Valerian. A. Gordon, Philadelphia.—p. 782.
Abduction Treatment of Fracture of Neck of Femur. B. H. Kyle, Lynchburg.—p. 785.

Iodin in Goiter.—In a series of fifteen cases treated by Bigger with iodin, fourteen responded satisfactorily. One, reported as showing parenchymatous hyperplasia did not respond. The pathologic report in eleven of the thirteen thyroidectomies was exophthalmic goiter; one was reported as adenoma, and one as a degenerating colloid goiter.

Toxic Blindness.—Jones reports two cases. In one case the loss of vision was due to an infection in the ethmoid cells. Each sphenoid sinus was opened and found to contain thin fluid, which was cultured separately. A goodly portion of the anterior wall was removed from each sinus. Two days later sight returned. In the second case, an apical tooth infection was the source of the infection.

West Virginia Medical Journal, Huntington

20: 57-112 (Feb.) 1925

Constitutional Manifestations of Sinus Disease in Children. T. W. Moore, Huntington.—p. 57.
Treatment of Kidney Infections. J. C. Matthews and R. M. Bobbitt, Huntington.—p. 59.
Postoperative Parotitis. L. D. Howard, Fairmont.—p. 61.
Electrical Treatment of Tonsillitis. W. C. Swann, Huntington.—p. 65.
Thyroid Abnormalities. H. L. Robertson, Charleston, W. Va.—p. 68.
Tuberculosis. G. D. Lind.—p. 72.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

Annals of Tropical Medicine and Parasitology, Liverpool

19: 1-139 (March 31) 1925

Cestoda Described by Beddard, 1911-1920. J. G. Baer.—p. 1.
*Ionic Calcium of Serum in Sprue. H. H. Scott.—p. 23.
*Malaria Parasites in Placental Blood. B. Blacklock and R. M. Gordon.—p. 37.
Two Vesicant Beetles Belonging to Family Staphylinidae. R. M. Gordon.—p. 47.
Genus Kiluluma. E. L. Taylor.—p. 53.
Nematodes in Museum of Liverpool School of Tropical Medicine. II. E. L. Taylor.—p. 57.
Genus Tetracampos, Wedl, 1861. T. Southwell.—p. 71.
Destruction of Vermin by Hydrogen Cyanide, with Especial Reference to Bed Bugs. R. Newstead, A. M. Evans and W. H. Potts.—p. 91.
Lethal Chamber and Chemical Methods Employed. W. H. Roberts.—p. 118.
Culicidae Collected in Sierra Leone, New Species and New Variety. A. M. Evans.—p. 119.
Disease of Fowls in Palestine Characterized by Leukocyte Inclusions. S. Adler.—p. 127.

Serum Calcium in Sprue.—The value of the estimation of the "ionic" calcium as a diagnostic criterion in sprue is emphasized by Scott. The same test, when repeated at intervals during the course of the disease, he says, affords a valuable, in fact, the most reliable gage of progress. Sprue is a disease which is constantly associated with a fall in the amount of ionic calcium in the serum, whereas the total remains at or about normal. A rise and fall of the ionic calcium coincides with improvement and relapse. Absorption of calcium is little, if at all, interfered with, but calcium metabolism is upset. Consideration of this fact and of some of the other symptoms of sprue, especially the cramps and tetany in severe or advanced cases, points to interference with the function of the parathyroid glands. Amelioration of symptoms, followed by cure, is obtained by oral administration of suitable salts of calcium and a pure and active preparation of parathyroid in adequate doses. The period needed for cure by these means is much shorter than by previous methods, the main symptoms clearing up in some cases within a few days. The administration of the parathyroid must, however, be maintained to stabilize the amelioration, but no ill effects have been found to occur if it is continued longer than is actually necessary to bring about this result. In the light of the foregoing, it is interesting to note that most of the old, empiric remedies contain lime as an important constituent.

Malaria Parasites in Placental Blood.—Of twenty-six placentas of native women examined by Blacklock and Gordon in Sierra Leone, twelve were infected with *P. falciparum*. The infection in many of these placentas was massive. Examination of the peripheral blood of twenty-three of these cases revealed only four infected. In the placental blood, sporulating parasites were numerous, and also young and half-grown forms. Definite differences were observed in the number of merozoites produced by the parasites of different cases; these differences may influence the rapidity of onset and the course of the disease. Crescents were never found in the placental blood in any of the cases examined. No case of congenital malaria was encountered. Some evidence is produced which suggests that malaria infection of the mother predisposes to accidents during pregnancy or at birth.

British Journal of Children's Diseases, London

22: 1-82 (Jan.-Mar.) 1925

*Pulmonary Tuberculosis in Childhood. F. G. Chandler and T. W. Preston.—p. 1.
Case of Celiac Disease with Glycosuria. F. J. Poynton and L. B. Cole.—p. 30.
Hypertrophy of Bones of Limb Due to Nevus. D. Paterson and W. G. Wyllie.—p. 36.
Case of Orchitis and Abdominal Pain Occurring as Complication of Serum Sickness. E. W. Goodall.—p. 39.
Case of Intraperitoneal Abscess of Unknown Origin, Probably Pneumococcal. C. P. R. Gibson.—p. 41.

Pulmonary Tuberculosis in Childhood.—Eighty-nine cases of proved pulmonary tuberculosis in children ranging in age from 3 to 16 years were reviewed by Chandler and Preston.

There was no history of tuberculous disease in the family in forty-eight cases. In forty-one cases the parents date the child's trouble from some acute illness. Cough was the predominant symptom in seventy-seven cases, wasting in forty-nine and hemoptysis in fourteen. Fifteen children had night sweats. The authors are of the opinion that while it is obviously undesirable to stigmatize every feeble child as tuberculous, it must not be forgotten that thoracic tuberculosis is undoubtedly responsible for a great deal of chronic illness in infancy and childhood.

British Medical Journal, London

1: 587-642 (March 28) 1925

Cancer of Stomach. R. P. Rowlands.—p. 587.
*Prevention of Puerperal Morbidity and Mortality. F. Ivens.—p. 589.
Fibrochondroma of Cauda Equina. F. L. A. Greaves and F. G. Lescher —p 592
*Irradiation of Milk and Healing of Rickets S. J. Cowell.—p. 594.
General Survey of Radiotherapy in Malignant Disease. S. G. Scott.—p. 596.
Empyema of Left Sphenoidal Sinus with Optic Neuritis and Subsequent Postpapillitic Atrophy. R. E. Wright.—p. 597.
Embryoma in Omentum Causing Symptoms Suggestive of Ureteral Calculus. A. E. Webb-Johnson.—p. 598.
Diaphragmatic Hernia After Bullet Wound of Chest. G. W. Christie. —p. 599.
Perurethral Operations for Prostatic Obstruction. T. E. Hammond.—p. 599.
Treatment of General Paralysis by Malaria. R. M. Clark.—p. 600.
Obscure Cerebral Condition. F. Moor.—p. 600.
Aneurysm of Splenic Artery. R. H. Yolland.—p. 600.

Prevention of Puerperal Morbidity.—Ivens asserts that latent or preexisting infection, streptococcal, gonorrheal or coliform, is responsible for a considerable percentage of cases of puerperal sepsis. The organism may not infrequently be isolated by bacteriologic examination of the urine during pregnancy, especially in cases of streptococcal or coliform infection. Intermittent albuminuria during pregnancy is an indication for a bacteriologic examination of the urine, even in the absence of urinary symptoms. With latent infection uterine inertia is more likely to occur, especially when associated with premature rupture of the membranes. Bacteriologic facilities for the examination of discharges during pregnancy, if utilized, will allow suitable precautions to be taken and an appropriate serum to be obtained.

Irradiation of Milk for Rickets Children.—A test was made by Cowell of the efficacy of irradiating children's food as regards the promotion of bone calcification. Three young children with active rickets were given a diet, which was not in itself calculated to promote particularly rapid calcification of their bones. One pint of milk in the twenty-four hours was virtually the only source of antirachitic vitamin in the diet. The milk destined for two of the children was exposed to the rays of a mercury vapor lamp of the Hanot type before it was given to them, while the third child received untreated milk. The irradiation was carried out twice a day, the milk being exposed in a wide, shallow dish for twenty minutes at a distance of three feet from the lamp. At the end of four weeks, roentgenograms of the children's wrists were again taken. In the case of the child that received untreated milk, there was during the month only a slight increase in the amount of calcification at the lower ends of the radius and ulna, while in the case of the two children that had received milk that had been exposed to ultraviolet rays, dense calcification had taken place, much in excess of what one would expect to have occurred in this short time as the result of giving this particular diet.

International Journal of Psycho-Analysis, London

6: 1-107 (Jan.) 1925

Metapsychologic Points of View in Technic and Theory. H. Sachs.—p. 5.
Metapsychologic Description of Process of Cure. F. Alexander.—p. 13.
Economic Principle in Psycho-Analytic Technic. S. Radó.—p. 35.
Castration Complex. E. P. Farrow.—p. 45.

Journal of Biochemistry, Tokyo

4: 185-384 (October) 1924

*Influence of Pregnancy on Sugar Excretion. M. Nakayama.—p. 185.
*Effect of Rectal Administration of Alkalis on Gastric Secretion. T. Matsuyama.—p. 199.
Chemical Studies of Hematoporphyrin Rabbits. K. Ohta.—p. 225.
Serum Lipase. T. Azuma.—p. 239.
Comparison of Katjang Hidjo with Yaenari in Vitamin B (Antineuritic Factor) Content. J. Senshu.—p. 271.
Intestinal Resorption of Various Salt Solutions. K. Nakashima.—p. 277.
Influence of Three Manurial Ingredients on Hydrogen-Ion Concentration of Cell Sap of Oats and Flax. K. Miyake and M. Adachi.—p. 317.
Blood Sugar of Guinea-Pig on Vitamin Free Diet. M. Hosokawa.—p. 323.
Effect of Insulin on Blood Serum. T. Sakurai, A. Huruya and K. Inoue. —p. 333.
Denaturation of Proteins, Effects of Dilute Acids and Alkalies on Proteins. W. Wu and D. Yen.—p. 345.

Influence of Pregnancy on Sugar Excretion.—Nakayama has found that the sugar threshold is, in general, lower in pregnant than in nonpregnant women. It rises immediately after delivery. The glycosuria occasionally occurring in pregnancy is of renal origin and not the result of increase in the amount of blood sugar.

Effect of Alkalis on Gastric Secretion.—Matsuyama's observations have demonstrated that administration of physiologic sodium chlorid solution by proctoclysis does not affect gastric secretion. Sodium bicarbonate increased the acidity, which is contrary to le Noir's findings.

Journal of Tropical Medicine and Hygiene, London

28: 113-136 (March 16) 1925

Malaria in Near East and in Europe. A. Pugnier and P. Schrumpf-Pierron.—p. 113.
Dengue vs. Malaria. R. E. Ingram-Johnson.—p. 126.
Conditions of Medical Work in West African Bush Station. M. C. E. Easmon.—p. 128.

Lancet, London

1: 641-696 (March 28) 1925

*Gastric Function in Health and Disease. J. A. Ryle.—p. 641.
Diagnosis of Malignant Disease of Thyroid. A. J. Walton.—p. 650.
*Renal Threshold for Glucose in Diabetes Associated with Nephritis. E. Wordley.—p. 655.
*Incidence of Glycosuria During Pregnancy. A. Crook.—p. 656.
Veronal Poisoning. E. P. Scott.—p. 658.
Case of Encephalomeningocele. E. G. Stuart.—p. 659.

Gastric Function in Health and Disease.—The nature and probable causes of the common gastric symptoms are discussed by Ryle, and evidence is given for their dependence on an exaggeration or inhibition of normal tonus, peristalsis or motility. Whereas pain and discomfort are probably associated with an increase of tension in the muscle fiber, it is suggested that anorexia, other than that due to rigidity of the stomach wall, and nausea are associated with abnormal relaxations of the muscle fiber. The common derangements of motor function and the methods of studying them have been briefly reviewed. Motility (emptying rate) and the factors disturbing it are more completely and accurately studied with the gastric tube than by other methods. Although actual hypersecretion and hyposecretion of the gastric hydrochloric acid may occur under certain conditions, reasons are given for supposing that pathologic hyperchlorhydria, hypochlorhydria and achlorhydria generally depend on motor disturbances influencing in one direction or another the rate at which neutralization occurs.

Diabetes Associated with Nephritis.—Ten cases of diabetes associated with renal disease are described by Wordley; in all there is present a marked inability to concentrate urea as judged by MacLean's urea concentration test. In eight of these ten cases the renal threshold for glucose was normal, in spite of the inability of the kidney to concentrate urea. In two cases the renal threshold for glucose was raised, in one case slightly, in the other to a greater extent. It would appear, therefore, that chronic nephritis of the azotemic type does not, in the majority of cases, alter the permeability of the kidney for glucose. In addition, these observations show that MacLean's urea concentration test is of greater value in estimating the function of the kidney in diabetes than an estimation of the blood urea, since the prolonged period during which many of the patients have been on a low diet tends to lower the blood urea.

Incidence of Glycosuria During Pregnancy.—Crook reports the results of the examination of the urine of 548 patients during their pregnancy. It appears that about 30 per cent. of these pregnant women passed sugar in the urine at some

time during their pregnancy, and in about one third of all the cases, and in quite one half of those which were first detected before the fifth month, it was of short duration, and not associated with other serious signs of disturbance of metabolism, while in those cases in which it appeared at about the twenty-eighth to thirtieth week it was more often associated with signs of toxæmia and more allied, perhaps, to "renal diabetes," so called, and in about 10 per cent. of them it lasted till labor and afterward. In the small proportion in which the sugar appears in every pregnancy, 1.5 per cent., the proportion of definite toxemia is higher still, 50 per cent. at least, though the total number of these cases is perhaps too small to afford a basis for any conclusions. In cases first detected at a very late date, that is, after the thirty-fourth week, a little less than 3 per cent. had sugar till labor, and afterward. Some of these cases were of the intermittent type. No especial incidence of septic infection was noted in these patients.

Medical Journal of Australia, Sydney

1: 201-228 (Feb. 28) 1925

Surgical Treatment of Cancer of Rectum. E. T. Thring.—p. 201.
Repair of Recent Lacerations of Perineum. H. Z. Throsby.—p. 205.
Bad Results in Colles's Fracture. L. G. Teece.—p. 206.
Rupture of Pregnant Uterus. J. L. T. Isbister.—p. 208.
Two Cases of Spontaneous Rupture of Uterus. H. Z. Throsby.—p. 209.
Gangrenous Appendicitis in an Infant of Eleven Months. P. L. Hipsley. —p. 210.

1: 229-250 (March 7) 1925

Cerebral Fat Embolism: Case. C. E. Corlette.—p. 229.
First Sense in Memory and Medicine. A. P. Derham.—p. 234.
Estimation of Salivary Urea as Index to Renal Prognosis. A. B. Corkill. —p. 236.
Melena in Baby Three Days Old. E. M. K. Hughes and N. E. Davis. —p. 238.
Melena Neonatorum in Infant Thirty-Six Hours Old. A. J. M. Purchas. —p. 238.
Case of Disseminated Fat Embolism. A. A. Palmer and E. W. Ferguson. —p. 238.
Cerebral Fat Embolism. S. Sheldon.—p. 239.

Medical Journal of South Africa, Johannesburg

20: 179-212 (Feb.) 1925

Australopithecus Africanus. R. A. Dart.—p. 183.
Tumor of Spinal Cord Located by Roentgen-Ray Examination. A. Abelheim.—p. 186.
Law and Doctor in South Africa. H. de Villiers.—p. 188.

National Medical Journal of China, Shanghai

11: 1-63 (Feb.) 1925

Commoner Diseases of Eye, Ear, Nose and Throat. M. Wong.—p. 1.
Expectant Treatment of Ruptured Kidney. S. C. Lowe.—p. 9.
Hospital from Administrative Viewpoint. S. T. Wang, Peking.—p. 13.
Hydrogen Peroxid. J. Cameron.—p. 17.
Tuberculous Stricture of Rectum. J. W. H. Chun.—p. 23.
Tuberculous Pericarditis. C. F. Tang.—p. 32.
Fecal Examination for Clonorchis Sinensis. C. Pang.—p. 41.

Sei-I-Kwai Medical Journal, Tokyo, Japan

44: 1-19 (Feb.) 1925

Bacteriophage. Yoshio.—p. 1.
Pathologic Anatomy of Pleuropneumonia Bovis Contagiosa in Cattle of Chosen. T. Kimura, T. Fukushima and T. Fujii.—p. 16.
Tuberculosis of Male Urethra. R. Hagihara.—p. 17.
Bacteriologic Investigation on Wheat Juice Culture Medium. S. Otabe. —p. 18.
Relation of Amino-Acids to Acceleratory Action of Caffein on Tryptic Activity. A. Onishi.—p. 19.

South African Medical Record, Cape Town

23: 65-88 (Feb. 28) 1925

Defects in School Children in Cape Province. E. M. Chubb.—p. 67.
Case of Complete Quadruple Ureters. E. B. Fuller.—p. 69.

Tubercle, London

6: 265-312 (March) 1925

Sanocrysin Treatment in Pulmonary Tuberculosis. J. Gravesen.—p. 265.
*Diet in Pulmonary Tuberculosis. F. R. Walters.—p. 277.

Diet in Pulmonary Tuberculosis.—One point stressed by Walters is that in pulmonary tuberculosis the diet is not determined by the label given to the disease, but by the clinical features, and in many cases need not depart widely from that in health.

Bulletins de la Société Médicale des Hôpitaux, Paris

49: 321-376 (March 6) 1925

Zoster Serum and Chickenpox. A. Netter.—p. 321.
Scleroderma and Syphilis. A. Léri et al.—p. 324.
Osteoarthritis Due to Typhoid. G. Caussade and A. Tardieu.—p. 329.
*Jacksonian Epilepsy Experiment. G. Guillain et al.—p. 341.
Iodized Oil in Diagnosis of Abscess. Sicard and Forestier.—p. 345.
*Multiple Sclerosis. H. Dufour and M. Ferru.—p. 346.
Structure of Aneurysm. M. Renaud.—p. 353.
Septicemia and Malignant Endocarditis. Recovery Under Streptococcus Vaccine by the Vein. Bass et al.—p. 359.
Amebic Abscess in Lung G. Caussade and A. Tardieu.—p. 363.
*Diabetes Insipidus. J. Hatzieganu and M. Hanganutiu.—p. 373.

Voluntary Hyperpnea Test Applied to Jacksonian Epilepsy Experiment.—The localized convulsions brought about by extremely deep breathing in the case described by Guillain, Alajouanine and Thévenard, resembled those in the patient's spontaneous spasms. The tetanic state occurred after six minutes of hyperpnea, with seventeen respirations to the minute. They emphasize the diagnostic value of the test, as the localization of the manifestations induced may help in determining the seat of the lesion for operation.

Multiple Sclerosis of Syphilitic Origin.—The specific nature in Dufour and Ferru's two cases was confirmed in one instance by the history of the patient; in the other by the Wassermann test, positive in the patient as well as in her son, aged 12.

Milk Injections in Diabetes Insipidus.—Hatzieganu and Hanganutiu applied parenteral protein treatment in two patients. In one, the urine dropped from 8 and 11 kg. to 250 gm. by the fifth injection, and the specific gravity had increased from 1.002 to 1.024. The reduced urine output was not accompanied by signs of intoxication. Marked improvement was also manifest in the second case. The treatment consisted of six injections, of 10 c.c. each, at two or three day intervals. Headache in both temples and prolonged slumber (eighteen hours), following every injection in one case, seemed to prove the stimulating action of the protein on the midbrain, the sleep center. This action induced consequently the retention of water.

Comptes Rendus de la Société de Biologie, Paris

92: 549-664 (March 7) 1925. Partial Index

Alleged Encephalitis Viruses. S. Nicolau.—p. 553.
*Vaccination of Guinea-Pigs. A. Vaudremer and G. Mondet.—p. 558.
Conservation of Rabies Spinal Cords. E. Burnet.—p. 562.
Anatoxin for Botulinus Antiserum. Weinberg and Goy.—p. 564.
Ovarian Grafts in Mammals. V. Pettinari.—p. 568.
*Action of Roentgen Rays on Antibodies. A. Paulin.—p. 572.
*Metabolism with Brain Tumors. G. Guillain et al.—p. 574.
*Viable Eggs from Feminized Male Toad. K. Ponse.—p. 582.
*Intralingual Inoculation in Animals. P. Remlinger.—p. 584.
Physiologic Epinephrinemia. A. Tournade and M. Chabrol.—p. 587.
*Anemia as Factor in Epinephrin Production. Idem.—p. 590.
Glycolysis and the Phosphorus in Blood. Bierry and Moquet.—p. 593.
*Pathogenesis of Beriberi in Man. Bernard and Bablet.—p. 600.
Alkalization of Cocain. J. Régnier.—p. 605.
The Blood Supply of the Brain Stem. Foix and Hillemand.—p. 608.
*Physiology of Right Auricle. M. Périot.—p. 611.
Cavities Due to Iodized Oil. Bonnamour and P. Delore.—p. 623.
*Surface Circulation in Cheyne-Stokes' Respiration. A. Dumas.—p. 626.
*Action of Ions on Cancer. G. Koerbler.—p. 628.
*Vasodilator Action of Epinephrin. K. H. Bergengren.—p. 635.
*Effect of Hydrastinin on Smooth Muscles. Lundberg.—p. 644; 647; 650.
*Action of Anesthetics on Sympathetic Innervation of the Intestines. H. Rydin.—p. 654; 658; 662.

Vaccination of Guinea-Pigs Against Tuberculosis.—Vaudremer and Mondet injected guinea-pigs with vaccine from pus of closed tuberculous abscesses, cultivated in potato broth without glycerin. The five animals thus vaccinated and five control guinea-pigs were then inoculated in the conjunctiva with an emulsion of tubercle bacilli. The controls all died between the eighth and eighteenth day, while the vaccinated animals remained unaffected.

Action of Roentgen Rays on Formation of Antibodies.—In Paulin's experiments twelve rabbits that had been injected with erythrocytes, or with anatoxin, were exposed to the roentgen rays. The irradiations did not arrest the production of hemolysins or of antitoxin, but slightly retarded the latter. While strong total or local irradiations did not destroy in vivo the existing antibodies, they hindered somewhat their production.

Basal Metabolism with Brain Tumor.—Guillain, Laroche and Alajouanine noted a reduction of the basal metabolism by 11 to 34 per cent. in patients with a brain tumor. In nervous affections such as tabes, myopathy and hemiplegia, the basal metabolism did not change. These facts testify to the effect of abnormal intracranial pressure on the general nutrition by way of the central nervous system.

Tadpoles Hatched from Eggs Laid by Castrated Male Toad.—Ponse reports from Geneva the hatching of eleven apparently normal tadpoles from 120 eggs of normal aspect (out of a total of 247 eggs), laid by a male toad that had been castrated two years before it was coupled with a male. He says that the transformation of the progonad (organ of Bidder) into a functioning ovary in this and the other five toads in the series dispels all doubt as to the nature of the elements constituting it. They are evidently ovocytes which normally are held in check by the testes but, after removal of these, they are capable of developing fertilizable ova. Ponse adds that this is the first time that eggs thus produced have been capable of hatching out tadpoles.

Experimental Inoculations in Tongue.—Remlinger suggests intralingual injections for experimental inoculations of certain viruses and microbes in animals. The large number of lymphatics and of nervous fibers in the tongue compensates for the small quantity of the virus that can be thus inoculated. The inoculated area is not exposed to external contamination.

Anemia and Epinephrin Secretion.—Tournade and Chabrol's research in dogs demonstrated that stimulation of the secretion of epinephrin occurs chiefly when the anemia from low blood pressure affects the centers in the brain and medulla oblongata.

Probable Causal Factor of Beriberi in Man.—Bernard and Bablet report that the histologic findings in organs of ten subjects that had died from beriberi, at the age of 20 to 40 years, proved to be similar to those in experimental beriberi in animals, caused by *Bacillus asthenogenes*.

Physiologic Functioning of Right Auricle.—Périot recorded directly the contractions of the right auricle of the heart in a patient with a gap in the chest wall from an operation for adhesive pericarditis. The contractility of the muscular fibers in the right auricle seems to be entirely independent of the conducting function of the fibers. The fibrils seem to do the contracting, while the sarcoplasm conducts the impulse.

Peripheral Circulation in Cheyne-Stokes' Respiration.—Observation of two cases with Cheyne-Stokes' respiration convinced Dumas that the phase of cessation of respiratory movements seems to inhibit the surface circulation, to slow up the rhythm of the pulse and to raise the tension. The phase of panting respiration induces the reverse of these phenomena.

Influence of Ions on Development of Cancer.—Research on rats with experimental sarcoma showed that even very high doses of calcium, sodium and chlorin ions do not exert any action on the development of the tumor.

Vasodilator Action of Epinephrin.—Epinephrin manifested a vasodilator action in frogs in which Bergengren had induced calcium deficiency, with consecutive changes in correlation of ions.

Paralyzing Action of Hydrastinin on Innervation of Smooth Muscles.—Lundberg relates that hydrastinin caused in the intestine of rabbits a paretic action on the parasympathetic and sympathetic nerve terminals; also in the uterus and heart.

Stimulation of Innervation in Smooth Muscles.—Rydin's experiments on rabbits confirmed that chloroform, ether, chloral, and some of its derivatives, enhance the irritability of the parasympathetic nerve terminals in unstriated muscles, and increase their susceptibility to acetylcholin and pilocarpin.

Encéphale, Paris

20: 73-136 (Feb.) 1925

*Decerebrate Rigidity in Man. F. M. R. Walshe.—p. 73.
Sensory Aphasia. Quercy.—p. 89.
*Malaria Treatment of General Paralysis. Wizel and Prussak.—p. 99.
Pathogenesis of Tremor. L. Haskovec.—p. 110.

Decerebrate Rigidity.—Walshe reports a case resembling Sherrington's decerebrate rigidity in a woman, aged 24, with a double hemiplegia. Necropsy revealed a typical suprapituitary tumor filling the third ventricle. The compression exerted by the tumor as well as by a secondary hydrocephalus were probably responsible for the symptoms of the decerebrate type. He concludes that the physiologic signs of experimental decerebrate rigidity are similar to those in pyramidal spastic conditions.

Malaria Inoculation in General Paralysis.—Wizel and Prussak treated 22 patients with general paralysis by subcutaneous injections of 2 c.c. of blood of tertian malaria. A complete remission occurred in 9 cases, and a partial improvement in 2; 7 among these patients were able to return to business. Several improved during the treatment, others only after the malarial attacks had ceased. The mental symptoms improved in 5 cases immediately after the treatment; in 6 cases not until several months later. Dysarthria and tremor improved, or even disappeared. The handwriting improved. In one case the light reflex reappeared, in another the ataxia disappeared. The Wassermann test became negative in the blood of 4 and the reaction grew weaker in 5; unchanged in 2. In one instance the remission still persists for twenty months to date. The treatment was repeated without any harm in one instance. They theorize that malaria inoculation induces formation of antibodies acting on the spirochetes, or the inoculation stimulates the specific antibodies for the syphilitic toxins.

Journal de Médecine de Lyon

6: 99-126 (Feb. 20) 1925

Danger from Inadequate Infant Feeding. G. Mouriquand.—p. 99.
The Phases in Congenital Syphilis. M. Péhu.—p. 109.
*Tubercle Bacillus in Children's Feces. Gardère and Lacroix.—p. 117.
Splenization of Lung in Tuberculous Infants. A. Dufourt.—p. 123.

Significance of Tubercle Bacilli in Stools of Children.—Only fourteen children, examined by Gardère and Lacroix, out of 136, aged from 5 to 15 years, were able to expectorate their sputum. Tubercle bacilli were always found in the feces of the children with pulmonary lesions, but only exceptionally in intestinal tuberculosis. The number of the bacilli decreased after an artificial pneumothorax. In latent tuberculosis, and in the initial phase of the disease the bacilli were present in the stools while the clinical signs and radiograms were still negative. They examine the stools after treatment with Javel solution and centrifugating twice.

Lyon Chirurgical

22: 1-128 (Feb.) 1925

J. Rollet Centennial. Rochet.—p. 1.
Partial Nephrectomy for Cyst in Kidney. Delore and Mallet-Guy.—p. 3.
Diagnosis and Marsupialization of Hydatid Cyst in Spigelian Lobule. O. Cignozzi.—p. 11.
Improved Technic for Plastic Operation on Uterine Cervix. Vaquier.—p. 53.
*Section of Rami Communicantes. R. Leriche and Wertheimer.—p. 57.
Origin of Bone Tissue. O. Hagentorn.—p. 65.

Extension of the Field of Surgery on the Sympathetic: Section of Rami Communicantes.—Leriche and Wertheimer severed the rami communicantes on one side in the lumbar region to relieve spastic paraplegia in extension, of sixteen years' standing, in a woman aged 27. Surprising benefit followed, but it was most pronounced on the opposite side. The operation was then repeated on the other side, and the subjective improvement was great, but the progress of the tuberculous spondylitis responsible for the paraplegia—which had been only suspected before—proved fatal in two months. In a second case the contracture of the muscles of the neck and clonic spasms were combated by severing some of the rami communicantes, with complete subsidence of the symptoms for two months. In both cases, too few rami had been severed for a complete result. In future they will try to sever all the rami corresponding to the member involved. They think that this method may have a future in treatment of various spastic syndromes, contracture or rigidity from cortical or traumatic lesions, Little's disease, parkinsonian syndromes, and the like, whether they involve a whole member or only a group of muscles or a single muscle. Severing

these rami might have an effect beyond merely the influence on the tonicity. Modifications of a vasomotor, trophic or visceral nature are also possible.

Journal de Radiologie et d'Electrologie, Paris

9: 49-112 (Feb.) 1925

Medical Ionization. A. Laquerrière and Delherm.—p. 49.
*Electricity in Treatment of Goiter. Portret and Helie.—p. 55.
Biologic Effect of Polonium. A. Lacassagne et al.—p. 67. Cont'n.
Electrolysis in Treatment of Angioma. Boucher.—p. 83.
The French and the German Erythema Dose. I. I. Kaplan.—p. 88.
Roentgenotherapy of Hemorrhagic Uterine Affections. Nadaud.—p. 91.
Case of Meralgia with Paresthesia. Pascal and Laquerrière.—p. 93.
Transverse Joint in Rib. A. Jaubert de Beaujeu.—p. 94.

Value of Electricity in Treatment of Exophthalmic Goiter.—Portret and Helie used this treatment in thirty patients with exophthalmic goiter; in ten among them after roentgen rays had failed. The intensity of the galvanic current did not surpass 5 to 7 ma. in the first sittings, lasting for ten minutes. In the successive exposures 15 ma. were used for twenty minutes, the applications repeated three times a week. After twenty sittings, a month's rest was given. Sometimes a second and even a third series was needed. The total duration of the treatment usually was eight to ten months. The treatment resulted in a notable local and general improvement. Galvanic electricity may be associated with the faradic, or with roentgen rays. Electrotherapy seems to correct the thyroid dysfunction and soothe the hyperexcitable sympathetic.

Paris Médical

55: 257-280 (March 21) 1925

Dermatology in 1925. G. Milian and L. Brodier.—p. 257.
*Sudden Death in Eczema in Infants. Hudelo and Louet.—p. 261.
*Case of Malignant Pemphigus. L. Spillmann and L. Michon.—p. 263.
Attenuated Lichen Planus. H. Gougerot.—p. 268.
"Bird's Eye" Skin Affection in Tanners. R. Barthélemy.—p. 270.
*Eruption from Bromid in Infant. G. Milian.—p. 272.
*Thermocautery in Skin Epithelioma. L. Périn.—p. 275.

Sudden Death in Eczema in Otherwise Healthy Infants.—Hudelo and Louet think that the family should be warned of the possibility of sudden death of a young infant with eczema or impetigo. Treatment should be extremely cautious, and—in the hospital—strict isolation should be imposed. They have witnessed such fatalities in infants that had not been treated at all. The clinical picture resembles that of a parenteral protein shock.

Subacute Malignant Pemphigus with Fatal Issue.—Spillmann and Michon give the details of a case of pemphigus with generalized extensive bullae in a man, aged 31, fatal in six months. The disease seems to be due to a microbic infection of a still unknown nature. The peculiar fever and other symptoms suggested septicemia in this instance, the same as in grave febrile pemphigus, but the bacteriologic findings were negative as usual.

Skin Eruption from Bromid Treatment.—The mother had given the infant, aged 3 months, a medicinal syrup containing sodium bromid. The follicular pustules formed patches resembling suppurative trichophytosis.

The Thermocautery in Treatment of Skin Epithelioma.—The epithelioma healed in from fifteen days to two months in forty-five patients out of fifty-nine thus treated, and no recurrences have appeared in the three years to date. There has been recurrence in five cases, and nine subjects did not improve at all. In forty-three of the cured cases the epithelioma was of the columnar type, free from glandular involvement. Thermocauterization alone is not enough if glands are affected.

Presse Médicale, Paris

33: 345-368 (March 18) 1925

*Separation from Tuberculous Parents. L. Bernard et al.—p. 345.
*Thoracectomy in the Tuberculous. Bérard.—p. 346.
Radiography of Gallbladder. Tuffier and Nemours-Auguste.—p. 348.
*Radiography in Gout. M. P. Weil and G. Détré.—p. 351.
Whitish Granulations in Cadavers. C. Strzyzowski.—p. 353.
Dick Reaction in Scarlet Fever. R. Debré.—p. 353.

Separation of Infants from Tuberculous Parents.—See Paris Letter, p. 1285.

Extrapleural Thoracoplasty in Tuberculosis.—Bérard believes that early thoracoplasty may be of benefit in unilateral pulmonary lesions, with a tendency to pleural adhesions. This group forms about 5 per cent. of the total tuberculous patients encountered. The recovery with this method may be more certain and more rapid than with artificial pneumothorax.

Use of Roentgenograms in Differential Diagnosis of Gout.—Weil and Détré report three illustrative cases, including one of supposed neuritis refractory to all treatment for five months, in which roentgenography then revealed the characteristic changes of gout in the fingers of the man, who was an alcoholic. They emphasize that lesions of vacuolation in the bones of fingers or toes, evident in roentgenograms, may be sometimes the only manifestation suggesting the diagnosis of gout, and thus allowing proper treatment.

33: 385-400 (March 25) 1925

*Desensitization. Pasteur Vallery-Radot and Blamoutier.—p. 385.
*Abscess in the Pancreas. H. Alamartine et al.—p. 388.

Protein Desensitization.—Vallery-Radot and Blamoutier insist that repeated application of minute quantities of the incriminated protein, merely as for a diagnostic skin reaction, is a simple and harmless procedure for desensitization against, for instance, asthma, spasmodic coryza, urticaria, and eczema.

Abscess in Head of Pancreas.—Alamartine, Mallet-Guy and Vachey operated on a patient for an abscess in the head of the pancreas, between the gallbladder and the colon. They warn that an abscess thus located may be mistaken for cholecystitis or appendicitis.

Revue Médicale de la Suisse Romande, Geneva

45: 129-192 (March 10) 1925

*Circulation in the Retina. Bailliart.—p. 129.
Multiple Symmetrical Lipomatosis. M. Roch and J. Mozer.—p. 150.
*Cancer in Body of Pancreas. G. Bickel et al.—p. 163.
Lipoma and Traumatism. T. Probst.—p. 176.
Congenital Malformation of Intestine. C. Martin du Pan.—p. 178.

Retinal Circulation Especially in Relation to the Cerebral Circulation.—In Bailliart's experiments on animals, the retinal vessels contracted during excitation of the sympathetic. Leriche, in decortication of the carotid artery, observed in man that section of the sympathetic led to dilatation of the retinal vessels. Retinal vasomotor nerves evidently exist, and are influenced by the sympathetic, but their action here is weaker than elsewhere. The anatomic condition of the retinal arteries shares in the state of the cerebral arteries. The retina is thus the image of the brain, and offers a field for useful study.

Diagnosis of Cancer in Body of the Pancreas.—Six cases are reviewed. The first manifestations in all were attacks of pain, often with intense paroxysms, but sometimes a dull ache. Signs of compression of the abdominal aorta predominated in every case. The first to attract attention was the presence in the epigastric region of a small, firm, deep tumor, with marked pulsation. Bickel, Katzenelbogen and Mozer believe that this pancreas-aorta syndrome should be added to the pancreas-biliary syndrome and the pancreas-solar plexus syndrome; alone or combined with these it testifies to cancer in the body of the pancreas. The diagnosis in their cases had been aneurysm of the abdominal aorta, and no operation had been attempted. The course was usually from four to six months after the first onset of the pains.

Schweizerische medizinische Wochenschrift, Basel

55: 225-244 (March 12) 1925

*Ovarian Cyst and Hydramnion. M. Wetterwald.—p. 225.
Thrombosis of Persisting Inferior Cardinal Vein. Moharrem.—p. 231.
Action of Camphor Oil. W. Ming.—p. 233.
*Experimental Medicine in the United States. L. Asher.—p. 234.

Ovarian Cyst and Hydramnion.—Wetterwald reports a case and discusses the literature on ovarian cysts in the pregnant since Nicholson's publication. Most of them were mistaken for hydramnions. The labor is ordinarily normal. The mortality was over 17 per cent. when the operation had been indicated for developing complications, and 3 per cent. when it had been done in a quiet period.

Experimental Medicine in the United States.—Asher publishes a report on his trip to the United States. He sees in America the step between the first and the second part of Faust, namely, action as the impelling force. He extols the way in which a few men got rid of most of the low grade schools by raising the requirements. Medicine seems to be taught and practiced from the experimental viewpoint. He appreciates the compulsory attendance at courses—contrary to the European freedom—and the predominance of experimental work in small groups over lectures. He finds that Europe is lagging behind. He is favorably impressed by the education to human kindness, which includes the same anesthesia and other treatment for the experimental animals as are used for man.

Archivio Italiano di Chirurgia, Bologna

11: 1-108 (Jan.) 1925

*Nontraumatic Perirenal Hematoma. F. Greco.—p. 1.
Radical Removal of Epithelioma in the Parotid. G. Pieri.—p. 41.
Ditto of Primary Epithelioma of Gallbladder. Chiasserini.—p. 49.
Paravertebral Hydatid Cyst. O. Cignozzi.—p. 59.
Pedunculated Tumors of the Liver. G. Ceccarelli.—p. 79.
Rotation of Stomach as It Fills with Food. Bastianelli.—p. 104.

Nontraumatic Perirenal Hematoma.—Greco has encountered two cases of what used to be called apoplexy of the kidney capsule. This, he says, brings the cases on record to sixty-two. He summarizes each in turn. In the forty cases given operative treatment, 70 per cent. recovered, while all died under merely conservative measures.

Archivio di Patologia e Clinica Medica, Bologna

3: 553-673 (Dec.) 1924

Total Collapse of One Lobe of Lung. F. Schiassi.—p. 553.
*Primary Splenomegaly from Thrombophlebitis. C. Frugoni.—p. 574.
*Hippuric Acid Synthesis as Kidney Test. G. Bignami.—p. 592.

Primary Phlebitis of Splenic Vein.—Five cases are described by Frugoni, all presenting symptomatic splenomegaly and recurring hematemesis at intervals of months or years. None of his patients would consider operative treatment, and all succumbed to a recurring hematemesis, with one exception. The survivor is a boy who was given treatment for suspected congenital syphilis. Rupture of some overdistended vein is responsible for the hemorrhage in some exacerbation of the thrombophlebitis. Each hemorrhage therefore is accompanied by fever and followed by ascites, and by more or less reduction in the size of the spleen.

Hippuric Acid Synthesis as Test of Kidney Function.—Bignami extols the advantages of test elimination of hippuric acid after ingestion of 2.4 gm. of sodium benzoate, with determination of the combined benzoic acid in the urine at three hour intervals. The healthy eliminate practically the whole in six hours, but elimination is retarded and imperfect in advanced chronic kidney disease and in acute glomerular nephritis. The findings harmonized with the Ambard coefficient and the phenolsulphonephthalein test in his research on forty-one subjects, including seven healthy and six with liver disease but sound kidneys.

Pediatria, Naples

33: 281-336 (March 15) 1925

*The Tuberculin Reaction. D. Caffarena and A. Morando.—p. 281.
*Chronic Polyarthritis in Children. A. de Capite.—p. 299.
*Treatment of Oxyuriasis. T. Luzzatti.—p. 319.
Gonococcus Vulvovaginitis. C. Giaume.—p. 320.

Influence of Serums on Tuberculin Reaction.—Caffarena and Morando found an attenuation of the Pirquet reaction if the tuberculin was mixed with serum from tuberculous patients, especially those who were receiving tuberculin treatment. No influence was noted from the serum of healthy or anergic tuberculous subjects.

Chronic Polyarthritis in Children.—De Capite observed three cases of chronic polyarthritis in children. There was no evidence of infection (including tuberculosis and syphilis), but the pharmacologic tests of the vegetative system gave abnormal results. He believes in an endocrine origin.

Treatment of Oxyuriasis.—Luzzatti never observed untoward effects from the use of purest chloroform (for anesthesia) in pure castor oil for oxyuriasis. Kidney lesions are a contraindication. The dose is 3-4 gm. in adults; 2 gm. above the fifth year, and 1 gm. before this. The castor oil makes these large doses harmless, he says.

Policlinico, Rome

32: 377-410 (March 16) 1925

Spontaneous and "Paralysis" Encephalitis in Rabbits. F. Bonfiglio.—p. 377.
*Hematuria in Appendicitis. M. Ascoli.—p. 385.
*Nephritic Syndrome with Migraine. A. Sanguinetti.—p. 387.
Bladder Calculus from Foreign Body. A. Chiasserini.—p. 388.

Hematuria in Appendicitis.—Ascoli describes a case of hematuria from the right ureter compressed by the exudate in appendicitis.

Nephritic Syndrome with Migraine.—Sanguinetti observed attacks of migraine accompanied by high blood pressure and albuminuria in a woman, 60 years of age. The blood pressure, urine and blood urea were normal in the intervals.

32: 1-52 (Jan. 15) 1925. Surgical Section

*Prevention of Postoperative Peptic Ulcer. G. Baggio.—p. 1.
Amputation of Forearm for Actinomycosis. G. D'Agata.—p. 31.
Operation for Diffuse Cavernous Hemangioma of Muscles in Gluteal Region. G. Zampa.—p. 40.

Prevention of Postoperative Peptic Ulcer.—In Baggio's four years of research on dogs he found that peptic jejunal ulcers developed regularly unless the principle was followed of either the extreme of conservative intervention or the extreme of radical measures. If the partial diversion of the chyme by a simple gastrojejunostomy with ample opening becomes total, then the conditions lose their ultra conservative character, and a peptic ulcer may develop even after years of good functioning. If radical measures are required, then the pylorus region must be removed entire. This discards the portion with the most vigorous motor function, the source of the most potent digestive juices and of reflex stimuli for the secretory function of the balance of the stomach. The anastomosis with the stomach should be direct, not with the Y technic, as otherwise the normal admixture with the secretions from the liver, pancreas and duodenum is lost. He found that mere incoordination of the digestive juices had a peptic ulcer-producing influence, while the duodenum after gastroduodenal anastomosis came in time to function vicariously like the old pylorus segment.

Riforma Medica, Naples

41: 193-216 (March 2) 1925

Medical Technic and the Human Body. Castronuovo.—p. 193.
*Procain-Formaldehyd Reaction in Tuberculosis. P. Corsonello.—p. 195.
Intrafascial Fibroma of Musculocutaneous Nerve. Romiti.—p. 197.
*Arneth's Count in Blood and Pus in Gonorrhea. E. Balbi.—p. 200.
The Reticulo-Endothelial System. A. C. Demel.—p. 203.

Procain-Formaldehyd Reaction in Tuberculosis.—Corsonello applied Costa's reaction to the serum of twenty-two tuberculous patients and ten healthy controls. He concludes that it is neither specific for tuberculosis, nor constant, nor in any relation to the degree of tuberculosis.

Arneth's Count in Blood and Pus in Gonorrhea.—Balbi found a moderate shifting to the right in the leukocytes of blood and urethral secretion in twenty-five patients with gonorrhea.

Semana Médica, Buenos Aires

1: 345-396 (Feb. 12) 1925

*Operations on the Cervical Sympathetic. A. J. Pavlovsky.—p. 345.
*Strapping the Chest for Hemoptysis. J. J. Viton.—p. 358.
Obesity of Central Origin. Mascheroni and Tourreilles.—p. 359.
Perforation of Stomach by Bullet. Recovery. Silvetti and Lista.—p. 365.
Protection Against Infection in Wetnursing. A. Casotto.—p. 368.
Aspergillus Pseudotuberculosis of Lung. J. F. Mieres.—p. 370.
Argentine Works on Dermatology and Syphilis. A. Fernández.—p. 371.
Nipiology. R. Eyzaguirre.—p. 388.

Surgical Treatment of Exophthalmic Goiter and Angina Pectoris.—Pavlovsky's illustrations show the best mode of access to the inferior thyroid artery from the rear, and the technic for severing the special sympathetic fibers involved. His conclusions are based on study of fifty cadavers.

Strapping the Chest in Treatment of Hemoptysis.—Viton applies strips of adhesive plaster to strap the chest to form a stiff cuirass for that half of the thorax, leaving the arm and the tip of the shoulder free.

Archiv für klinische Chirurgie, Berlin

134: 663-843 (March 12) 1925

*Pathology of the Stomach. IV. V. Orator.—p. 663.
*Resection of the Stomach. E. Paul.—p. 682.
*Perthes' Gastropexy. E. Paul.—p. 698.
*Postoperative Jejunal Ulcer. O. M. Chiari.—p. 709.
*Pepsin-Antipepsin in Ulcer Cases. V. Orator.—p. 733.
Origin of Duodenal Carcinoma. V. Orator.—p. 736.
*Intestinal Polyposis. H. Czermak.—p. 743.
*Polyposis of Digestive Tract. E. Bouvier.—p. 763.
Case of Cystadenoma of the Pancreas. F. Metzler.—p. 772.
Cancer in the Tyrol. R. Kraft.—p. 780.
Pathologic Changes in Margin of Liver. F. Metzler.—p. 794.
Pharyngo-Esophageal Diverticulum. E. Bouvier.—p. 802.
Experimental Rickets. F. J. Lang.—p. 805.
Mixed Forms of Chondromatosis and Osteitis. V. Orator.—p. 813.
Aplasia of Joints in Fingers. L. Stecher.—p. 818.
*Tetany After Operations for Goiter. O. Maier.—p. 826.
The Blood Transfusion Question. R. Kraft.—p. 834.
Resection of Colon in Jejunal Ulcer Cases. Flechtenmacher.—p. 838.

Lessons from Resected Portions of Stomachs.—Orator found evidence of malignant degeneration in 2 per cent. of the ulcers in the middle portion of the stomach, and in 30 per cent. of those in the prepyloric region but never in a duodenal ulcer, of the 170 resected stomachs examined, in a total material of 700 ulcer and 150 cancer cases at Eiselsberg's clinic. The gastritis with cancer, specific infection and intoxications includes the mucosa of the fundus, and entails primary atrophy. This pangastritis with achylia preceded actual cancer in 80 per cent. of the cases. He regards it at the cancer age as an indication for resection of the pyloric portion of the stomach, especially if the Freund-Kaminer refractometer test is positive.

The Haberer Modification of Billroth I Resection of Stomach.—Paul reports excellent results in seventy-one cases from implanting the stomach stump in the side of the duodenum.

Gastropexy.—A complete cure was demonstrated in 30 per cent. of twenty-five patients after Perthes' method of gastropexy; 50-60 per cent. more were free from disturbances, although the ptosis had not been anatomically corrected.

Peptic Jejunal Ulcer.—Chiari found evidences of inflammation around the ulcer in eleven resected postoperative ulcers.

Proportions of Pepsin and Antipepsin in the Blood in Relation to Gastric Ulcer.—Orator states that the findings in fifty operative ulcer cases fail to sustain Kohler's assumption that a lack of antipepsin is the predisposing factor for ulcer development.

Intestinal Polyposis.—Czermak reports two cases, one with symptoms for eight years, the other for six months before the fatal outcome. There was coincident cancer in the latter case.

Polyposis of Digestive Tract.—Bouvier adds four cases of polyps in the rectum and a solitary polyp in the stomach to the ninety-six cases of intestinal polyposis he has found on record. His patients all recovered after removal of the growth. In Zahlmann's case all of the six brothers and sisters in one family died from intestinal polyposis. Profuse mucous secretion is mentioned in nearly every case of polyps in the digestive tract.

Tetany After Goiter Operations.—Maier remarks that the danger of tetany can be materially reduced by leaving the posterior wall of the lateral lobes unmolested so far as possible, and avoiding complete luxation of the superior pole. The mildest form of postoperative tetany develops a few days after the operation and subsides spontaneously or under internal calcium treatment. If the tetany develops in less than twenty-four hours, it is too severe to yield to calcium unless given by the vein for two or three days in large amounts. This gives the parathyroids a chance to recuperate. If this does not occur, then parathyroid treatment or grafts is the only resource for temporary relief. It has never proved possible to maintain a parathyroid graft in permanent function.

Deutsche medizinische Wochenschrift, Berlin

51: 423-464 (March 13) 1925

*Deep Pressure Sensation. M. v. Frey.—p. 423.
Dermographism. Goldscheider and H. Hahn.—p. 424.
Pharmacology of Cadmium. M. Kochmann and C. Grouven.—p. 427.
*Serology in Tuberculosis. W. Dölter.—p. 431.
Phlegmonous Gastritis. R. Bumm.—p. 434.
Indications for and Technic of Forceps. W. Hannes.—p. 435.
Treatment of Central Contracture of Muscles. E. A. Spiegel.—p. 438.
*Chronic Treatment with Epinephrin. A. Holländer.—p. 439.
*Treatment of Hiccup. A. Gause.—p. 441.
Pendulum Apparatus for Hand and Fingers. F. Schäffer.—p. 441.
Pneumatic Insoles. E. Stern.—p. 441.
*Treatment of Ingrown Nail. Mickel.—p. 443.
Multiple Kidney Calculi After Trauma. A. Loewenstein.—p. 443.
Protection Against Roentgen Rays. W. Steinberg.—p. 443.
Innervation of Internal Organs. F. Glaser.—p. 444.
The Hygiene Exposition in Berlin. W. Hoffmann.—p. 446.
*Report on the Death of President Ebert. A. Freudenthal, A. Bier and O. Lubarsch.—p. 448.
The Kielland Forceps. F. Geppert.—p. 461.

Deep Pressure Sensation.—Frey used superficial electro-osmotic anesthesia of the skin for experiments on the deep sensation of pressure. It required several hundred to a thousand times more weight to produce a sensation than with normal skin. He concludes that a deep pressure sensation is not established.

Serology in Tuberculosis.—Dölter found no complement fixation with Wassermann's tuberculosis antigen at the freezing point. The tetralin antigen adsorbs the hemolytic components of lecithin, but does not remove the agent which activates cobra venom.

Chronic Treatment with Epinephrin.—Holländer recommends epinephrin subcutaneously, internally and externally in recurring secreting eczema and in erythrodermias, especially pityriasis rubra. The results at Unna's clinic show that this treatment requires a long time.

Treatment of Hiccup.—Gause prescribes 10 drops of a 5 per cent. solution of potassium iodid twice daily in hiccup.

Treatment of Ingrown Nail.—Mickel introduces a piece of gauze soaked in celluloid solution under the ingrowing part of the nail, and repeats the procedure in a few days.

Report on the Disease, Operation and Death of President Ebert.—Mentioned in News department, page 994.

Deutsche Zeitschrift für Chirurgie, Leipzig

190: 1-135 (Feb.) 1925

*End Results in Gallstone Operations. P. Seulberger.—p. 1.
*Treatment of Tetanus with Magnesium Sulphate. M. Landow.—p. 35.
*Treatment of Surgical Tuberculosis. A. Gregory.—p. 72.
Supernumerary Carpal Bones. A. Heimerzheim.—p. 88.
Supernumerary Tarsal Bones. Idem.—p. 96.
*Enterostomy as Accessory Operation. N. N. Nasaroff.—p. 113.
Osteoma in Capsule of Knee Joint. S. Simon.—p. 116.
*Prevention of Postanesthetic Vomiting. E. Sattler.—p. 129.
Grave Empalement Injury. R. Demel.—p. 131.

End Results in Gallstone Operations.—Of the 304 patients operated on, 1912-1920, Seulberger reports on 217; 80 per cent. were free from symptoms; 88 per cent. had had their earning capacity fully restored; in 9 per cent. another operation had been required. No true recurrence of stone formation was noted. In many of the cases with persisting symptoms, gastric hyperacidity or anacidity was found. In case of puzzling clinical findings, a test of Head's zones is recommended. A paravertebral injection of procain frequently relieves postoperative disturbances, often considered as "adhesion pains." The operative mortality is not included in the statistics.

Intramuscular Injection of Massive Doses of Magnesium Sulphate for Tetanus.—Landow found that the end results did not justify the promise. Of his twenty tetanus patients, 70 per cent. died. In five of the six surviving cases grave respiratory disturbances or suspended respiration occurred as a result of the action of the magnesium sulphate on the respiratory centers.

Treatment of Surgical Tuberculosis with Iodin.—In 1912 Hotz recommended iodin and injected iodin-iodoform-glycerol intramuscularly. Gregory used, as less painful, a 10 per cent. iodoform emulsion in 90 parts of paraffin oil and 10 parts of tincture of iodin. Gregory applied this treatment in 182

cases of surgical tuberculosis. The results were good, in certain instances remarkable. The favorable results—40 per cent. cured and 42 per cent. improved in the 141 cases treated three months or longer—were obtained without the use of the roentgen or quartz lamp or galvanic current.

Enterostomy as an Accessory Operation.—Nasaroff says that in paresis of the intestine and ileus shortly after a laparotomy, an enterostomy may save life. The opening in the intestinal wall often closes without surgical aid, if the drain is removed in twenty-four hours.

Prevention of Postanesthetic Vomiting.—Postoperative vomiting may be caused by direct excitation of the medulla oblongata or by reflex action from the gastric branches of the vagus, chiefly the fibers near the cardia. Rapid removal of the anesthetic affecting the oblongata, by stimulating the respiration, and reduction of the irritation of the vagus branches in the stomach should be the aim.

Klinische Wochenschrift, Berlin

4:481-528 (March 12) 1925

Synthetic Theory of Human Body. M. Heidenhain.—p. 481.
*Center for Hand. W. Börnstein.—p. 487.
*Insulin Treatment of Exsiccation Syndrome. R. Priesel and R. Wagner. —p. 489.
*Diabetics Refractory to Insulin. H. Strauss.—p. 491.
*Diagnosis of Status Thymicolymphaticus. R. Jaffé and H. Wiesbader. —p. 493.
*Formaldehyd Gel Test of Serum.—G. Pfeffer.—p. 497.
*Action of Serums on Respiration of Cells. A. Simon.—p. 499.
Flocculation Reaction Serologic Tests. A. Koppel.—p. 500.
*Treatment of Pericarditis. W. Alexander.—p. 500.
*Epinephrin Reaction. E. Kylin.—p. 501.
*Antagonism of Insulin and Atropin. E. Frey.—p. 501.
Recovery from Lipoid Nephrosis. P. Karger and H. Ullmann.—p. 502.
The Tuberculosis Question. A. Marberger.—p. 503.
Fight Against Infectious Diseases in England. J. Breger.—p. 508.
Interposed Glass Tube in Injections. E. Leschke.—p. 524.
Treatment of Oxyuriasis. Dreuw.—p. 524.

Center for Hand.—Börnstein reports the clinical and necropsy findings in a man with motor and sensory disturbances of the right thumb and two fingers, the right big toe and the right side of the mouth after a shell splinter wound. The lesion was correctly localized in the region between the third and fourth quarters of the anterior and posterior central convolutions. The necropsy findings confirmed Goldstein's theory of the possibility of disturbances of the foot in lesions of the center for the hand, based on a phylogenetic functional relation.

Insulin Treatment of Exsiccation Syndrome.—Priesel and Wagner recommend in the alimentary intoxication of infants an intravenous infusion of 280-300 c.c. of a 10 per cent. solution of glucose, preceded by injection of 1 unit of insulin for each 5 gm. of sugar.

Insulin-Resistant Diabetics.—Strauss observed a case of diabetes which was very little influenced by insulin. The exophthalmos which was present suggested the possibility of influence of other endocrine glands.

Diagnosis of Status Thymicolymphaticus.—Jaffé and Wiesbader examined the thymus and the lymphatic system in forty individuals who had died suddenly from accidents or poisoning. They find that a good development of these organs characterizes a healthy strong subject. An anatomic diagnosis of a thymicolymphatic state is impossible.

Formaldehyd Gel Test of Serum.—Pfeffer noted a certain parallelism between the Gaté-Papacostas reaction and the sedimentation test.

Action of Serums on Respiration of Cells.—Simon found no difference in the acceleration of the reducing potency of surviving muscles by serum from cancer patients and from controls.

Treatment of Pericarditis.—Alexander presents priority claims as one of the originators of the method of insufflation of the pericardial cavity in prevention of accretion.

Epinephrin Reaction.—Kylin injected 0.01 mg. of epinephrin intravenously. Some of the subjects reacted with an increase of blood sugar, others with a decrease, and a third group with both phases. He believes that the test indicates the ion constellation in the tissue fluid.

Antagonism of Insulin and Atropin.—Frey found in rabbits that insulin restored the reactivity of the heart fibers of the vagus which had been paralyzed by atropin. After discussing several possible explanations, he decides in favor of the assumption that the insulin crowded out the atropin from the terminals of the vagus.

Medizinische Klinik, Berlin

21: 387-424 (March 13) 1925

*Diabetic Pseudocoma. H. Strauss.—p. 387.
Hematemesis; Enterorrhagia; Perforation. Kuttner.—p. 388. Conc'n.
*History of the Stomach Tube. W. His.—p. 391.
*Centenary of John Weiss' Stomach Tube. W. v. Brunn.—p. 394.
*Malaria Treatment of General Paralysis. G. Herrmann.—p. 395.
*Postoperative Inhalation of Carbon Dioxid. K. Doppler.—p. 398.
*Technic of Cisterna Puncture. E. Bescht.—p. 399.
Rare Pupil Phenomenon. H. Kalk.—p. 401.
*Teleroentgenography of the Heart. K. Weiss.—p. 402.
Lungs and Bronchi in Early Syphilis. E. Lyon.—p. 403.
"Menstrual Hemorrhagic Urticaria." B. Grünzweig.—p. 405.
*Studies on Tuberculosis. I. Yu.—p. 405.
Insomnia and Hypnotics. J. Fels.—p. 407.
Psychotherapy. H. Fendel.—p. 409. Cont'n.
Survey in Hygiene. H. Ziemann.—p. 411.

Diabetic Pseudocoma.—Strauss observed five diabetics with fatal coma which had a superficial resemblance to true diabetic coma. Yet the breathing was not of the great Kussmaul type (two had the Cheyne-Stokes' type), and acetone was absent or low. Cerebral symptoms (hemiparesis, Babinski, etc.) were usually present. He regards the condition as arteriosclerotic coma. The brain arteries may be affected in the same way as the arteries of the extremities in the gangrene of diabetics. Large doses of insulin are contraindicated.

History of the Stomach Tube.—His deals with the history of the stomach tube. It goes as far back as to the beginning of the eighteenth century, and was simultaneously reinvented in England and France.

Centenary of John Weiss' Stomach Tube.—Brunn reproduces a picture of the stomach tube patented by John Weiss in London a hundred years ago. In the year 1824 a caricature depicting its use for overfilled stomachs was printed, according to Holländer.

Malaria Treatment of General Paralysis.—Herrmann reports on a further series of 60 patients treated with malaria inoculation: 9 out of 10 of the patients in the initial stage of general paralysis were cured; one died from rupture of the spleen. Out of 45 advanced cases, 2 were cured, 23 improved and 9 have died. He refrains from treatment of tabes except with beginning atrophy of the optic nerve, with sufficient vision. He injected milk or Besredka's typhoid vaccine in cases in which the malaria inoculations failed to produce fever, and thus provoked the infection in some cases. He failed in two, except for occasional rises of temperature and diarrhea lasting for weeks. In spite of this, both patients were well influenced.

Postoperative Inhalation of Carbon Dioxid.—Doppler had good results with postoperative inhalation of carbon dioxid. The stimulation of the respiratory center caused a more rapid elimination of the anesthetic used. It worked in asphyxia and in hiccup.

Technic of Cisterna Puncture.—Bescht controlled the occipital puncture with the roentgen rays. He prefers Eskuchen's high puncture in the deepest point of the suboccipital region.

Teleroentgenography of the Heart.—Weiss prefers teleroentgenography decidedly to orthodiagraphy for comparison of the size of the heart. The latter method is necessary only when obesity or pleurisy cause an unsatisfactory shadow.

Studies on Tuberculosis.—Yu does not confirm any results with passive immunization of guinea-pigs against tuberculosis. Animals injected with extracts from tuberculous organs or bacterial proteins gave frequently a positive intracutaneous tuberculin test. Yet the same occurred in guinea-pigs when the injected organs were normal, and typhoid or other germs were used. The kidneys of his five guinea-pigs resisted the tuberculosis even when they had been infected

by direct injection into the kidney. Only one of them presented local changes.

Münchener medizinische Wochenschrift, Munich

72: 413-460 (March 13) 1925

*Periarterial Nerves. O. Wiedhopf.—p. 413.
*Limits of Virulence Tests. W. Lehmann.—p. 417.
*Blood Diseases and the Lymphocytic Reaction. Arneth.—p. 423.
*Neuropathic Cause of Edema of Lungs. E. Schneider.—p. 424.
Mesenchymal Shock Therapy of Tuberculosis. G. Assmann.—p. 425.
Protein Therapy of Gastric Ulcer. L. v. Friedrich.—p. 428.
*Flocculation Reactions. J. Hohn and H. Wolf.—p. 429.
Chronic Dysentery. Robinski.—p. 432.
*Pyelitis Intra Partum. H. Naujoks.—p. 433.
*Diuresis. P. Heymann.—p. 435.
"Productive Welfare Work." Levi.—p. 436.
Centennial of F. A. von Zenker. H. Schröder.—p. 436.
*Cancer of Uterus. E. Vogt.—p. 437.
*Vital Statistics of Czechoslovakia. E. Roesle.—p. 439.
Syphilis in Early Middle Ages. P. Hildebrand.—p. 442.

Periarterial Nerves.—His own experiments and a critical review of the literature convinced Wiedhopf that there are no long sensory nerves in the sheath of blood vessels. Läwen's and Lehmann's explanation of the results of periarterial sympathectomy by a reflex is at present the most plausible. Yet it is not satisfactory in every case.

Limits of Virulence Tests.—Lehmann concludes from his 100 cases of puerperal infection that Ruge's and Philipp's methods of determination of the virulence of the vaginal germs have no prognostic value except for indicating the possibility of invasion. Besides this, the methods do not heed the danger from anaerobic germs.

Blood Diseases and the Lymphocytic Reaction.—Arneth reiterates the value of the qualitative changes of blood cells —including the shifting to the right.

Neuropathic Cause of Pulmonary Edema.—Schneider observed a dangerous attack of edema of the lungs in a man after brief contact with a wire of a potential of 110 volts. He attributes the edema to the neuropathic constitution of his patient.

Flocculation Reactions.—Hohn and Wolf conclude that the flocculation test is preferable in early syphilis; the complement deviation test in later stages.

Pyelitis Intra Partum.—Naujoks draws attention to pyelitis as a cause of fever in labor. It occurs especially with prolonged labor, is frequently overlooked, and may be fatal.

Diuresis.—Heymann emphasizes Ellinger's opinion that every change of the osmotic pressure of blood colloids (not only a lowering), produces diuresis.

Cancer of Uterus.—Vogt recommends bimanual rectal palpation on suspicion of cancer of the corpus of the uterus. The index palpates from the rectum, while the thumb is introduced into the vagina to hold the cervix firm. Exploratory curettage has the danger of perforation, infection and metastases, yet it is often indispensable.

Vital Statistics of Czechoslovakia.—Roesle considers the new birth and mortality statistics of the Czechoslovak Republic as modern and free from the tedious and incorrect traditions of other continental states.

Wiener klinische Wochenschrift, Vienna

38: 295-318 (March 12) 1925

Cancer in Ulcer of the Stomach. H. Finsterer.—p. 295. Cont'd.
*Reducing and Dehydration. H. Eppinger and F. Kisch.—p. 299.
Dermatitis from Telephone and Radio Earpieces. R. O. Stein.—p. 304.
Intramesenteric Perforation of Intestinal Ulcer. A. Winkelbauer.—p. 306.
Bilateral Rupture of the Sartorius. K. Pichler.—p. 307.
*Shoulder Pain with Perforated Ulcer. R. Stohr.—p. 308.
*Treatment of Corrosion of Esophagus. H. Salzer.—p. 309.
Bringing Up Premature and Weakly Babies. A. Reuss. Supplement.—pp. 1-20.

Reducing and Dehydration.—Eppinger and Kisch discuss the Falstaff type of obesity. These patients are usually oliguric and have retention of chlorids. Thyroid preparations act better if strong diuretics are used with them.

Shoulder Pain in Perforated Ulcer.—Stohr confirms the value of the pain in the shoulder described by Oehlecker in perforation of ulcers of the stomach and duodenum. It was localized in the right shoulder in seven cases, and it was almost as intense as the pain in the abdomen. It was absent in acute cholecystitis, and its presence decided in another case against appendicitis.

Treatment of Corrosion of Esophagus.—Salzer introduced in 1920 the preventive treatment of esophageal strictures caused by ingestion of lye. Out of the 226 cases treated to date, 214 were cured, three died on the first day, four died from pneumonia, five from perforation. He washes the stomach with water and gives a fluid diet. The systematic introduction of the stomach tube begins from the second day or not until the fourth day if there is fever. The soft stomach tube is filled with fine shot. At first it is left for only a few minutes. After six days it may be left for half an hour. Even 4 year old children learn to introduce the tube themselves. The patient is given soft food in the second week and ordinary food in the third. Deglutition is painless in a few days. He compares the fine results of this early treatment with the inevitable strictures under expectant treatment.

Zeitschrift für Tuberkulose, Leipzig

42: 1-95 (March) 1925

Origin of Tuberculosis in Infants. A. Ghon et al.—p. 3. Cont'd.
Seasonal Influence on Condition in Tuberculosis. N. Lunde.—p. 21.
Treatment of Grave Cases of Tuberculosis. G. Schröder.—p. 26.
Restricting Admission to Sanatoriums. K. H. Blümel.—p. 32.
The Fight Against Tuberculosis in Switzerland. Frey.—p. 37.
*Complement Deviation in Tuberculosis. N. Watanabe.—p. 45.
*Prognosis in Pulmonary Tuberculosis. Kaebsch and Simsch.—p. 51.

Complement Deviation in Tuberculosis.—Watanabe tested 392 blood serums with the Besredka and Wassermann and other antigens. The serum from patients with pulmonary tuberculosis gave a positive complement deviation with the Besredka antigen in 84 per cent. of the cases. In thirty-five cases of lupus, complement deviation with Besredka antigen was obtained in twenty-five. With few exceptions, the rate of positive reactions was lower with the Wassermann than with the Besredka antigen. Serums from a number of children with a hereditary predisposition to tuberculosis, but no clinical manifestations, gave positive complement deviation both with the Besredka and the Wassermann antigens.

Comparative Examinations in Diagnosis and Prognosis of Pulmonary Tuberculosis.—Kaebsch and Simsch report on seventy-five patients examined serially, the clinical findings compared with the Wassermann complement deviation, the blood sedimentation test, and the Pirquet tuberculin test. The simultaneous application of the Wassermann and the sedimentation tests afforded useful information in the great majority of cases even after one test. These procedures cannot supplant the old clinical methods, but should always be included.

Zentralblatt für Chirurgie, Leipzig

52: 561-624 (March 14) 1925

*Successful Homeoplastic Bone Graft. Ellmer and Schmincke.—p. 562.
Effect of Pituitary Extract on the Low Blood Pressure in Splanchnic Anesthesia. W. Harke.—p. 565.
*Gastro-Enterostomy with Prophylactic Vagotomy. Podkaminsky.—p. 568.
Torsion of Retained Testis. H. Hirsch.—p. 569.
"Necrosis from Indelible Pencil," and Diagnosis of Fistulas. E. Glass and E. Krüger.—p. 571.
*Injections of Ether into Abdominal Cavity. B. Gutnikoff.—p. 574.
By-Effects of Encephalography. F. Brinkmann.—p. 579.
"Tardy Recurrence of Appendicitic Abscess." K. Koch.—p. 581.

A 15½ Year Old Homeoplastic Bone Graft.—Ellmer and Schmincke transplanted the radius from an amputated arm after resection of the radius for sarcoma in 1909. The homeoplastic transplant proved a perfect substitute, with clinical results not to be differentiated from an autotransplant, but after a fracture in 1924, consolidation was defective and a pseudarthrosis resulted.

Gastro-Enterostomy with Prophylactic Vagotomy.—In the pathogenesis of certain cases of peptic ulcer of the jejunum, spasm of the intestinal walls seems to be an important factor. Podkaminsky suggests that in vegetative hypertonia, bilateral vagotomy below the diaphragm might be made simultaneously with the gastro-enterostomy. The excessive tonus of the stomach, most frequent in duodenal ulcer, would thus be

transformed into hypotonia. Vagotomy causes practically no change in gastric secretion; if any, a decrease.

Ether in Prophylaxis of and in Diffuse Purulent Inflammations of Peritoneum.—Gutnikoff found the disinfecting power of the ether sufficient to destroy streptococci and colon bacilli at body temperature, but not staphylococci. Injections of large quantities of ether into the sound abdominal cavity of a dog caused no trace of an inflammatory reaction. Prophylactic injections of ether into the abdominal cavity and injections in diffuse purulent inflammations due to pure staphylococcus infection gave good results. In processes in which destruction of bacteria (streptococcus and colon bacillus) and hyperemia occurred simultaneously, because of the ether injections, the results were disastrous, from the release and absorption of the bacterial endotoxins.

Casopis lekaru ceskych, Prague

64: 401-440 (March 14) 1925

*Terrace Exudates in Pneumothorax. J. Jedlicka.—p. 401.
Flint's Sign. S. Mentl.—p. 405. Cont'd.
*The p_H of the Vitreous Body in Glaucoma. A. Gala.—p. 409.
*Sympathectomy by Radium Emanation. F. Vanýsek.—p. 413.
Obstetric Statistics. V. Rychetník.—p. 415. Cont'd.
Blood Pressure in Ski Races. V. Pyro.—p. 418. Cont'd.
*Vaccine Treatment of Urinary Affections. J. Rejsek.—p. 420. Conc'n.
Paratyphoid B in Milk. M. Kredba.—p. 424.

Terrace Exudates in Pneumothorax.—Jedlicka reports ten cases of pleurisy in artificial pneumothorax, the fluid being arranged in several levels.

The p_H of the Vitreous Body in Glaucoma.—Gala determined colorimetrically the hydrogen ion concentration of the vitreous body in eyes with optic atrophy and in glaucoma. He found it lowered in the latter condition.

Vasodilatation by Radium Emanation.—Vanýsek had good results with six intravenous injections (three a week) of 6-9 millicuries of radium emanation. The action was more pronounced on the injected extremity. The epinephrin reaction was mitigated there. He found the method useful in all vasoneuroses and trophoneuroses which showed an exacerbation after injection of epinephrin. Intermittent claudication was favorably influenced by subcutaneous injections of 0.5 millicurie.

Vaccine Treatment of Affections of the Urinary Tract.—Rejsek tries the usual methods in inflammation of the kidney pelvis and bladder for two or three weeks before attempting vaccine therapy. If the patient does not recover, and if surgical measures are not indicated, the vaccine treatment may do good.

Nederlandsch Maandschrift v. Geneeskunde, Leiden

13: 69-140 (Feb.) 1925

*Ultraviruses and Immunity Against Them. II. F. d'Herelle.—p. 69.
The Diagnosis in Clinical Psychiatry. E. A. D. E. Carp.—p. 111.

The Ultravisible Viruses and Immunity.—D'Herelle remarks that although we may never be able to see an ultravirus, yet we have already acquired much knowledge of their properties, especially by study of the bacteriophage. Visible microbes proliferate in the body fluids, the ultravisible in the cells. The parasite seems to enter the cell by opening a passage with some corroding enzyme. The cell reacts to the attack of the parasite with the production of an antivirulin which protects durably against reinfection. With a total lack of affinity between the cell and the virus, the disease does not develop (rabies in pigeon brain), but there is no antibody formation and the virus is not inactivated. He theorizes that the ultravisible virus—a single micella living being—probably represents the first form of life, from which both the animal and the vegetable kingdoms are derived.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

1: 965-1084 (Feb. 28) 1925

*Intermittent Invagination. J. A. van Dijk and A. J. F. Oudendal.—p. 966.
Hagedorn-Jensen Test for Glycemia. Hintzen and van Buchem.—p. 974.
Akineton, a Benzyl Compound, in Treatment of Spasm. Snapper et al. —p. 987.
Treatment of Dyspareunia, Especially with Hypnosis. Noč.—p. 991.
*Extreme Eosinophilia. W. A. Boekelman.—p. 998.
Congenital Syphilis and Manic-Depressive Psychosis. Breukink.—p. 1003.
Connection Between Trauma and Diabetes. D. Brocx.—p. 1025.

Adenomas Responsible for Intestinal Invagination.—A young man and his sister had presented for years a similar clinical picture of recurring or intermittent invagination, with symptoms of ileus and latent intervals. The laparotomy disclosed one adenoma in the woman and four in the man, all in the small intestine, with recovery after resection. The man had required two laparotomies as some of the tumors had escaped detection at the first.

Intense Eosinophilia.—Boekelman adds a seventh case to the six he has found on record in which, with moderate leukocytosis, the eosinophils ranged from 66.3 to 91 per cent. His patient had had malaria and hookworm during a few years' stay in India but had been completely cured. The spleen was large, and there was a tendency to dyspnea and edema and to subacute kidney disease. In a few months of the salt-free and purin-free diet ordered for the latter, the leukocytes numbered 7,040, with 6,141,600 erythrocytes and hemoglobin 115 and eosinophils 15.6 per cent. The cause of the eosinophilia was obscure in all.

Hospitalstidende, Copenhagen

68: 97-120 (Feb. 5) 1925

*Kahn's Precipitation Test. H. Boas.—p. 97.
Traumatic Ostecmalacia of Semilunar Bone. L. Christensen.—p. 107.
Treatment of Angiomas with Carbon Dioxid Snow and Electrolysis. K. Trier.—p. 117.

Kahn's Precipitation Test.—Boas' examination of 1,403 serums showed that the Kahn and Wassermann reactions agreed in 91 per cent. (positive in 512 cases; negative in 763).

68: 121-144 (Feb. 12) 1925

*Primary Sarcoma of the Stomach. O. Kapel.—p. 121.
Case of Carcinoma of Sebaceous Glands. S. Gørtz.—p. 134.

Primary Sarcoma of the Stomach.—Kapel presents a case in a woman, aged 38, with stomach symptoms for ten years, with severe pains in an early stage. A large movable tumor was found in the stomach. Resection resulted in apparent recovery, until recurrence proved fatal the tenth month. Up to 1917, resection had been made in sixty cases of sarcoma of the stomach (Geymüller), with an operative mortality of 18 per cent.; in one case recovery is known for fifteen years, in another, nine years.

68: 169-192 (Feb. 26) 1925

*Epinephrin in Therapeutics. V. Rubow.—p. 169. Conc'n.
*Treatment of Syphilitic Children. H. Boas.—p. 175.

Use of Epinephrin.—Rubow discusses three methods of application, each of which appears to have its special province: subcutaneous injection in asthma attacks; intravenous injection in acute circulatory weakness; and inhalation of a spray in more protracted disturbances of the circulatory organs, where longer and often repeated action of epinephrin is indicated. Determination of the dose suitable for the different cases offers difficulty, and further extensive clinical research is required for this.

Treatment of Children with Congenital Syphilis in Special Asylum.—Boas considers the results attained in the forty-eight children in this special institution as extremely gratifying. Children of all ages are admitted and are kept till ready for self support. It thus differs from a Welander home. He lists nearly a dozen institutions of the Welander type in different countries, including one in Czechoslovakia.

68: 193-216 (March 5) 1925

*Titration of Test Meals. R. Ege.—p. 193.
Calcium Content of the Blood Serum. P. Schultzer.—p. 202. Begun p. 157.

Titration of Test Meals.—Ege discusses examination of the gastric contents from the clinical standpoint. He determines the total acidity by titrating the aspirated contents down to the original reaction of the test meal. For the Ewald, the latter is about 5.6. If the acidity found is corrected according to the lactic acid content, a standard measure for the total acid secretion is obtained.